# MILLER LIGHTING



THE MILLER COMPANY MERIDEN. CONN.

A MAINTAINED CATALOG SERVICE

Binder No. 1846

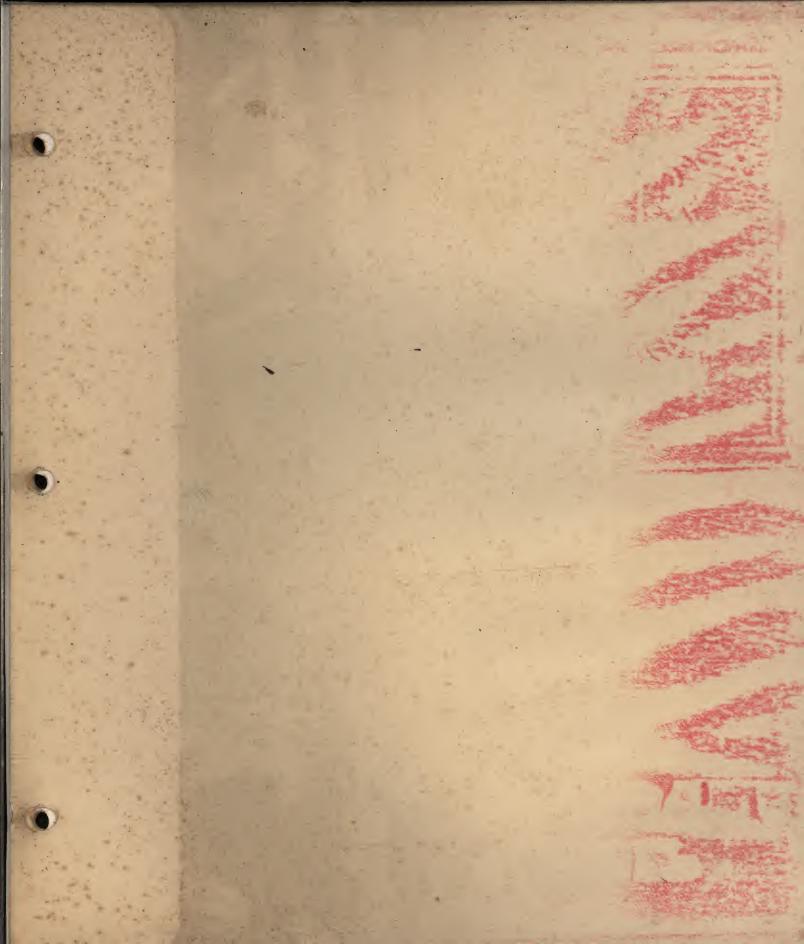
Issued To Mr. Herbert A. Benson

Ву

# THE MILLER COMPANY

MERIDEN, CONNECTICUT

KEEP INTACT FOR NEW PAGES





CATALOG SECTION 1A

# THE MILLER COMPANY

Pioneers in Good Lighting Since 1844

MERIDEN, CONNECTICUT

NEW YORK - 14 EAST 38TH STREET

F.O.B. Meriden, Conn.

# IVANHOE CATALOG NUMBERING SYSTEM

The numbering system used in this catalog furnishes a description of the product. Familiarity with this system will enable you to identify equipment from the number.

All catalog numbers are assigned on the following basis: Prefix letters indicate type of holder or fitter; intermediate letters indicate finish; suffix letters indicate type of re-

flector or light distribution. The numerals following the letters represent the lamp wattage for which the reflector is recommended. However, in some instances where different holders are used in combination with reflector a suffix number is added to the wattage which identifies the holder, e.g., PBEDD-100-12 or PBEDD-100-16.

The numbers used are from the following:

#### Prefix Letters — Type of Holder or Fitter

- B— B type Heel 2¼"
- C— C type Clamp fitter for attachment to Porcelain Sockets
- D— D type fitter for attachment to Brass Shell sockets
- G- Glassware
- H- Heavy duty 31/4" threaded fitter
- R— Reflector socket type solid top
- S— S type fitter for attachment to weatherproof threaded sockets
- V- Vaporproof
- AC Accessories, parts, etc.
- AM-Accessory metal reflectors
- BR-Bracket with reflector R type
- KS—Hinge Ring Dust Covers
- OB-Outlet Box Cover type B heel fitter
- OH—Outlet Box cover type Heavy duty fitter 3¼"
- OR—Outlet Box cover Reflector socket type

- OX—Outlet Box cover type Disconnecting Holder
- PB—Pipe attachment ½" Tap B heel Type holder
- PC-Pipe Tap 1/2" Tap combination units
- PH—Pipe attachment ½" Tap Heavy Duty holder 3¼" threaded
- PR—Pipe attachment ½" Tap R type reflector socket
- PX—Pipe attachment ½" Tap disconnecting holder
- RD-R type 1/2" pipe tap Dust Proof
- VR-Vaporproof R type 1/2" Pipe Tap
- VO-Vaporproof Outlet Box cover type
- CB—B heel reflector with type C snap-in shade holder
- DB—B heel reflector with type D snap-in shade holder
- SB— B heel reflector with type S snap-in shade holder

#### Intermediate Letters - Finish

- A- Alzak Aluminum Finish
- E- Standard Porcelain Enamel Finish
- P- Duco Paint Finish

- U- Porcelain Enamel
- EA— Combination Enamel and Alzak Aluminum finish

#### Suffix Letters — Type Reflector or Light Distribution

- B— Bowl type
- C- Flat Cone type
- D— Distributing type Shallow Dome
- F— Flood type Distribution
- G— Glassteel Diffuser fitter type Glass
- L- Angle type
- S— Spot or Concentrating distribution

- AL -- Asymetric Angle -- Poster Board
- RD—Silvered Bowl lamp dome Type
- AD—Silvered Bowl Diffuser
- DA—Distributing Asymetric type
- DD—Deep Dome and RLM Dome type
- GS— Glassteel Diffuser Screw thread Glassware Dustproof
- ID— Intensive Dome Type

F.O.B. Meriden, Conn.

### February 1, 1939

### GOOD LIGHTING PAYS

Efficiency is the determining factor in meeting the keen competition in industry today. Machines have been perfected, processes have been developed whereby products can be made faster and better than ever before.

However, modern efficient machinery is not all that enters into the cost of production, for few of the machines are entirely automatic and many operations depend wholly upon the skill of the workman. Good light is a necessary tool for any worker. Without it he cannot do his best. With poor light, spoilage goes up, production goes down.

With 4½ billion dollars' worth of merchandise being spoiled each year in manufacture, the item of spoilage is an important factor in production costs. The part that good lighting plays in decreasing production costs is no imaginary one, for it not only increases a worker's ability to do more and better work, but also increases the will to do good work.

Lower production costs are not the only advantage of good lighting, for it also enables the manufacturer to make the most of his raw materials and other invested capital, such as that represented by equipment, floor space, etc. Further than that, good lighting has a very definite effect on the attitude of the workmen, for they are, by nature, prejudiced against a dark, gloomy place. The zeal, hope, spirit and confidence that naturally follow in an atmosphere of light is well worth the relatively small investment for a good lighting system.

# SELECTION OF THE PROPER LIGHTING EQUIPMENT

With the many different kinds of industrial lighting equipment, it becomes more and more difficult to determine which is best suited to the particular lighting needs. The first requisite in making this choice is, however, not the particular type of unit, but the quality and workmanship that is built into the product. Is it scientifically designed to provide maximum efficiency with minimum maintenance and depreciation costs?

The Miller Company has been manufacturing lighting equipment since 1844. Miller has its own modern rolling mills, foundries, spinning rooms, pressrooms, plating plants, a complete engineering

equipped plants for steel porcelain enameling and Alzak processing of aluminum.

In addition to the high standard of quality, Ivanhoe products are available through a nation-wide service. The Ivanhoe line of lighting equipment includes types for every application and the services of The Miller engineering staff are available at all times to assist in making the proper selection of lighting equipment.



Above: Factories of The Miller Company at Meriden, Connecticut Left: Our Own Rolling Mill. (Nationally known as a producer of Phosphor Bronze,)

F.O.B. Meriden, Conn.

# IVANHOE PORCELAIN ENAMELED REFLECTORS

The Miller steel porcelain enameling plant is devoted exclusively to the production of lighting equipment. Porcelain enamel is used commercially for a variety of purposes,



All three coats of porcelain enamel are sprayed on the reflector, leaving a gleaming surface free from rough spots and blemishes.

but to get the best product, special consideration should be given to the particular purpose for which it is intended. An enamel that will withstand the greatest shocks, or one which will withstand greatest heat variations (as required in cooking utensils), seldom has the properties to give best reflection values. By devoting the entire enameling plant exclusively to lighting equipment, Miller has concentrated all its efforts in developing the best in reflecting equipment. Ivanhoe reflectors are scientifically designed and constructed.

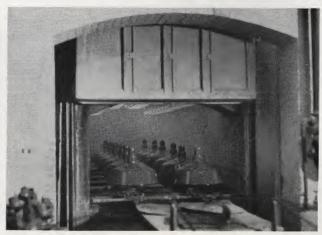
It is essential to know that every step in the manufacturing process, from the raw material to the finished product, has been calculated to provide more efficient reflector equipment. Many of the features incorporated in Ivanhoe reflectors are not evident upon superficial examination, but nevertheless are of vital importance when considering the real quality—the durability—the workmanship that has gone into the finished product.

For instance, every piece of the enameling iron from which the reflectors are made, is first boiled in an alkali potash solution and then put into an acid pickling bath to eliminate all impurities and to insure a smooth, clean finished surface. Any small particle of dirt would tend to impair the efficiency of the reflector so every precaution is taken to

make sure that the surface of the metal is absolutely free from all foreign matter.

After the enameling iron has thus been cleaned, the next step in the manufacture of the reflector is the enameling process. Unlike inferior grades of reflector equipment where the first coat, or ground coat, is put on with a brush leaving an "orange peel" surface, full of rough spots and blemishes, all three coats of enamel are sprayed on leaving a gleaming surface that provides better reflection values. Great care is also taken in preparing and controlling the chemicals and the porcelain enamel to maintain absolute uniformity. Here again, every precaution is taken to eliminate particles of dirt and dust that would impair the reflection factor of the reflector.

And perhaps most important of all is the baking process. The Miller Company has found that electric heating gives perfect heat distribution and permits greater flexibility in temperature control than can be obtained with fuel. Improved electric furnaces that provide an even, definite control of temperature, free from all harmful gases, dust and



One of the electric furnaces in which the porcelain enameled reflectors are baked.

dirt, are used exclusively for baking Ivanhoe Porcelain enameled Reflectors.

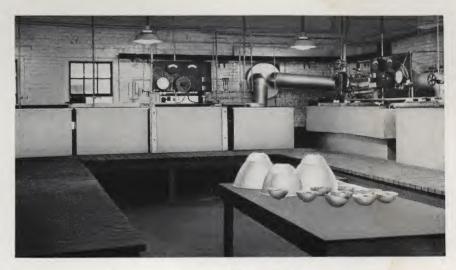
During the baking process a special burning tool is used so that heat is evenly applied to all surfaces. After the ground coat is applied, a special carborundum tool is used to remove all beads and other surface defects that may be present.

F.O.B. Meriden, Conn.

February 1, 1939

### IVANHOE ALZAK ALUMINUM REFLECTORS

for Lower Installation and Maintenance Costs . . . Higher Efficiency



A section of the processing tanks in the Miller plant.

In addition to the complete line of enameled reflectors, the Miller Company is licensed under patents of the Aluminum Company of America to manufacture Alzak aluminum reflectors. These aluminum reflectors are fabricated and treated by a special patented process which produces a sealed-in reflecting surface comparable to the glaze on pottery. The Alzak finish resists grease, dirt, abrasion and corrosion from salt water and moisture. The non-porous surface of the Alzak reflec-

tor is easily cleaned with soap and water.

With this finish, the reflection factor is permanently high — second only to silver. It will not wear off, tarnish or stain, and is not affected by moderate heat.

The Miller Company was one of the first to be licensed under the patents of the Aluminum Company of America and maintains one of the most complete processing plants in the industry.



The "Pilot" Plant — a complete Alzak aluminum processing plant in miniature for Miller research, experiment and testing.

By constant research, the Miller Company has maintained a high-quality product that will give more efficient service at lower installation and maintenance costs. A complete miniature Alzak processing plant is maintained for research, experiment, and testing.

# IVANHOE

February 1, 1939

F.O.B. Meriden, Conn.

# HOW TO SOLVE INDUSTRIAL LIGHTING PROBLEMS

There is no danger of supplying too much light under modern sources of artificial illumination, properly applied. The human eye has been accustomed to natural daylight where even on a cloudy day, the intensity of illumination out of doors is hundreds of times greater than that created artificially. The best lighting systems supply a really meager amount of light compared to the intensity of daylight. That is apparent when we compare 5 to 10 footcandles which are average indoor values with 500 to 10,000 footcandles of outdoor daylight.

It must be recognized that seeing is a task that is performed by the whole body, affecting the entire nervous system. Not unlike the actual muscular exertion in lifting a heavy object which affects not only the arms, but also the heart, back, lungs, and the whole nerve fibre, the task of seeing has a direct relationship to the entire body. Insufficient light can be translated into bodily disorders that are apparently far removed from the actual cause. Fatigue, nervousness, and poor workmanship are the natural results of inadequate light.

Many factors enter into determining the amount of light required for the certain visual task involved. The following are among the more important ones and should be considered when planning a lighting system:

#### 1. SIZE OF DETAIL

Naturally, if an object is small, more light is necessary to facilitate seeing. Light acts as a magnifier. However, the amount of light required, does not follow in direct proportion to the size of the object, for an object half the size of the other, would require more than twice as much light to make it equally visible.

#### 2. DISTANCE FROM EYE

This is an important factor, for the human eye cannot distinguish fine detail at more than an average distance without adequate light. Enough light must be supplied to compensate for the loss in transmission of the reflected rays of light to the eye.

#### 3. TIME AVAILABLE FOR SEEING

When little time is allowed for seeing an object, more light is needed to maintain correct visibility.

When the light is inadequate it takes longer to actually see the object in question.

#### 4. OBJECT BRIGHTNESS

The amount of light reflected from an object is the object brightness. If illumination is inadequate the object will not reflect sufficient light to enable easy visibility. Brightness cannot always be controlled by improving the reflection factor of the object, but it can be controlled by providing adequate illumination on the work.

#### 5. CONTRAST

This has a direct relationship with the intensity of illumination needed. Light objects with a dark background are easy to see and consequently less light will have to be provided. Some of the objects in the illustration shown below, are harder to see than others because there is not enough difference in the reflection factors between the object and its background. Harsh shadows and spotty, uneven illumination also reduce the ease of seeing. When the illumination is uneven, the eyes must adjust themselves to varying degrees of intensity when glancing from a brightly illuminated plane to the surrounding darkness and back to the work again. This causes severe eyestrain.



The relationship between contrast and size of the object is shown in the above illustration. Just as in any industrial location, because of size and contrast, some objects are much harder to see than others. However, the CORRECT amount and the right kind of light will make seeing easier, no matter what the job may be.

# RECOMMENDED STANDARDS OF ILLUMINATION

#### For Industrial Interiors

(These foot-candle values represent order of magnitude rather than exact levels of illumination)

Foot-Cand		Foot-Ca		Foot-Ca		· ·	
Aisles, Stairways, Pas-		Cloth Products:		Leather	444400	Paper Box	mules
	5	Cutting, Inspecting,		Manufacturing:		Manufacturing:	
Assembly:		Sewing —		Vats	5	Light	10
Rough 1	0	Light Goods	20	Cleaning, Tanning and		Dark	20
Medium 2	20	Dark Goods	A*	Stretching	10	Storage	
Fine I	$B^*$	Pressing, Cloth Treat-		Cutting, Fleshing and			
Extra Fine	A *	ing (Oil Cloth, etc.)		Stuffing		Paper Manufacturing:	
Automobile Mfg:		Light Goods		Finishing and Scarfing	20	Beaters, Grinding, Cal-	
Assembly Line I	$\mathrm{B}^*$	Dark Goods	20	Leather Working:		endering	10
Frame Assembly 1.	.5	Coal Tipples and		Pressing, Winding and		Finishing, Cutting,	
Body Manufacturing —		Cleaning Plants:		Glazing —		Trimming	20
Parts		Breaking, Screening		Light	10	Plating	10
Assembly 20	0	and Cleaning		Dark	20		
Finishing and Inspecting	A *	Picking.	A*	Grading, Matching,		Polishing and	
				Cutting, Scarfing,		Burnishing	15
Bakeries 20	U	Dairy Products	20	Sewing — Light	20	Printing Industries:	
Book Binding:		Elevators — Freight		Dark	A *		
Folding, Assembling, Pasting, etc 10	0	and Passenger	10			Matrix Making,	
Cutting, Punching and	·U			Locker Rooms	5	Dressing Type	
Stitching 20	0.	Engraving	A*	Machine Shops:		Font Assembly -	
Embossing 20	0	Forge Shops and		Rough Bench and		Sorting	
Breweries:		Welding	10	Machine Work	10	Hand Casting	
	5			Medium Bench and		Machine Casting	20
Boiling, Keg Washing		Foundries:		Machine Work, Or-		Electrotyping —	
and Filling 10	0	Charging Floor, Tum-		dinary Automatic		Molding, Finishing,	
Bottling 15	5	bling, Cleaning, Pour-		Machines, Rough		Bouting Trimming	B*
Candy Making 20	0	ing and Shaking Out		Grinding, Medium	20	Leveling Molds, Routing, Trimming Blocking, Tinning	C*
Canning and Preserv-		Rough Molding and		Buffing and Polishing Fine Bench and	20	Electroplating, Wash-	
ing 20	0	Core Making Fine Molding and Core		Machine Work, Fine		ing, Backing	20
Chemical Works:		Making		Automatic Machines,		Photo Engraving —	
Hand Furnaces, Boil-				Medium Grinding,		Etching, Staging	20
ing Tanks, Stationary		Garages — Automobile	:	Fine Buffing and Pol-		Blocking.	
Driers, Stationary and	_	Storage — Live	10	ishing	$\mathbb{B}^*$	Routing, Finishing, Proofing	R*
	5	Dead		Extra Fine Bench and		Tint Laying.	A*
Mechanical Furnaces, Generators and Stills,		Repair Department and Washing	C*	Machine Work,		1110 1111 Jill B	4.4
Mechanical Driers,		vi asining	u	Grinding — Fine Work	A *	Receiving and	
Evaporators, Filtra-		Glass Works:		rine work	A	Shipping	10
tion, Mechanical		Mix and Furnace		Meat Packing:		Rubber Manufactur-	
Crystallizers, Bleach-		Rooms, Pressing and		Slaughtering	10	ing and Products:	
ing 10	0	Lehr, Glass Blowing Machines	10	Cleaning, Cutting,		Calenders, Compound-	
Tanks for Cooking, Ex-		Grinding, Cutting Glass	10	Cooking, Grinding,	20	ing Mills, Fabric Prep-	
tractors, Percolators,		to Size, Silvering	20	Canning, Packing	20	aration, Stock Cut-	
Nitrators, Electrolytic Cells15	5	Fine Grinding, Polish-		Milling — Grain		ting, Tubing Ma-	
		ing, Beveling, Etching	~ .	Foods:		chines, Solid Tire Op-	
Clay Products and Cements:		and Decorating	C*	Cleaning, Grinding and	10	erations, Mechanical	
Grinding, Filter		Inspection	B*	Rolling		Goods, Building, Vul- canizing	10
Presses, Kiln Rooms 5	5	Hangars — Aeroplane:		Baking or Roasting		Bead Building, Pneu-	10
Molding, Pressing,		Storage — Live	10	Flour Grading		matic Tire Building	
Cleaning and Trim-		Repair Department	$C^*$	Packing and Boxing	10	and Finishing, Inner	
ming 10				Paint Mixing	10	Tube Operation,	
Enameling 15		Ice Making — Engine	10			Mechanical Goods	
Color and Glazing 20	U	& Compressor Room	10	Paint Shops:		Trimming, Treading	20
Cleaning and Pressing		Inspection:		Dipping, Spraying, Fir-		Sheet Metal Works:	
Industry:	0	Rough		ing, Rubbing, Ordinary Hand Painting		Miscellaneous Ma-	
Checking and Sorting 20 Dry and Wet Cleaning	U	Medium	20	and Finishing	20	chines, Ordinary	
and Steaming 10	0	Fine	B*	Fine Hand Painting		Bench Work	15
Inspection and Spotting A	1*	Extra Fine	A T	and Finishing	$B^*$	Punches, Presses,	
Pressing—Machine 20	0	Jewelry and Watch		Extra Fine Hand Paint-		Shears, Stamps.	
HandC	<b>*</b>	Manufacturing	A*	ing and Finishing		Welders, Spinning,	00
Receiving and Shipping 10	0			(Automobile Bodies,	A ak	Medium Bench Work	
Repair and Alteration	J "	Laundries	20	Piano Cases, etc.)	11	Tin Plate Inspection	D.
(*) see following page.							

# IVANHOE

February 1, 1939

F.O.B. Meriden, Conn.

# RECOMMENDED STANDARDS OF ILLUMINATION

For Industrial Interiors

Foot-Candles	Foot-Candles	Foot-Candles	Foot-Candles
Shoe Manufacturing:	Drawing-In —	Fine Work — Buffing,	Inspection —
Cutting and Stitching	On Heddles A*	Polishing, etc B*	Grey Goods (Hand
Cutting and Stitening Cutting Tables10	On Reed A*	Extra Fine Work A*	Turning) C*
Marking, Buttonhol-	Weaving —	Blacksmith Shop 10	Denims (Rapidly
ing, Skiving, Sort-	On Heddles and Reeds 5	Laboratories (Chemical	Moving) A*
ing, Vamping, and	On Warp Back of	and Physical) 15	Automatic Tying-in,
Counting —	Harness 10		Weaving B*
Light materials 20	On Woven Cloth 30	Carpenter and Pattern	Drawing-In By Hand A*
Dark materials C*		Shop	Tobacco Products:
Stitching	Steel and Iron	Storage2	Drying, Stripping,
Light materials C*	Manufacturing:	Stone Coughing and	General 10
Dark materials B*	Billet, Blooming, Sheet	Stone Crushing and	Grading and Sorting A*
Data made da maria	Bar, Skelp and Slab-	Screening:	
Marking and Finishing	ing Mills5	Belt Conveyor Tubes,	Toilets and Wash
Stitchers, Nailers, Sole Layers, Welt	Boiler Room, Power	Main Line Shafting	Rooms 5
Beaters and Scarfers.	House, Foundry and	Spaces, Chute Rooms, Inside of Bins 5	Upholstering - Auto-
Trimmers, Welters,	Furnace Rooms 5		mobile, Couch,
Lasters, Edge Set-	Hot Sheet and Hot	Primary Breaker Room,	Furniture 20
ters, Sluggers, Ran-	Strip Mills10**	Auxiliary Breakers under Bins 5	Warehouse 5
ders, Wheelers,	Cold Strip, Pipe, Rail,	Screens 10	Woodworking:
Treers, Cleaning,	Rod, Tube, Universal	Screens10	Rough Sawing and
Spraying, Buffing,	Plate and Wire Draw-	Store and Stock	Bench Work 10
Polishing, Embos-	ing10**	Rooms:	Sizing, Planing, Rough
sing —	Merchant and Sheared	Rough Bulky Material 5	Sanding, Medium
Light materials 20	Plate Mills15**	Medium or Fine Mate-	Machine and Bench
Dark materials C*	Tin Plate Mills —	rial Requiring Care 10	Work, Gluing, Veneer-
	Hot Strip Rolling and	* 0	ing, Cooperage 20
Silk and Rayon	Tinning Machine	Structural Steel	Fine Bench and Ma-
Manufacturing:	Dept 10	Fabrication 10	chine Work, Fine
Soaking, Fugitive Tint-	Cold Strip Rolling 15	Textile Mills (Cotton):	Sanding & Finishing C*
ing, and Conditioning	Inspection —	Opening, Mixing, Pick-	Woolen:
or Setting of Twist 10	Black Plate C*	ing, Carding and	Carding, Picking,
Winding, Twisting, Re-	Bloom and Billet	Drawing 10	Washing, Combing 10
winding, and Coning,	Chipping C*	Slubbing, Roving, Spin-	Twisting, Dyeing 10
Quilling, Slashing 30	Tin Plate and Other	ning 20	Drawing-In, Warping —
Warping (Silk or Cot-	Bright Surfaces B*	Spooling, Warping on	Light Goods 15
ton System)	Repair Shops —	Comb	Dark Goods 30
On Creel, on Run-	Rough Bench and	Beaming, and Slashing	Weaving —
ning Ends, on Reel,	Machine Work 10	on Comb —	Light Goods 15
on Beam, on Warp	Medium Bench and	Grey Goods 20	Dark Goods 30
at Beaming C*	Machine Work 20	Denims B*	Knitting Machines 20

\*Lighting recommendations for the more difficult seeing tasks, as indicated by A, B, and C in the foregoing table, are given in the following:

\*\*In these areas many of the machines require one or more supplementary lighting units mounted on them in order to effectively direct light toward the working points.

Group A — These seeing tasks involve (a) the discrimination of extremely fine detail under conditions of (b) extremely poor contrast, (c) for long periods of time. To meet these requirements, illumination levels above 100 foot-candles are recommended.

To provide illumination of this order a combination of at least 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

Group B — This group of visual tasks involves (a) the discrimination of fine detail under conditions of (b) a fair degree of contrast (c) for long periods of time. Illumination levels from 50 to 100 foot-candles are required.

To provide illumination of this order a combination of 10 to 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectionable shadows.

Group C — The seeing tasks in this group involve (a) the discrimination of moderately fine detail under conditions of (b) better than average contrast (c) for intermittent periods of time. The level of illumination required is of the order of 30 to 50 foot-candles and in some instances it may be provided from a general lighting system. Oftentimes, however, it will be found more economical and yet equally satisfactory to provide from 10 to 20 foot-candles from the general system and the remainder from specialized supplementary lighting. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

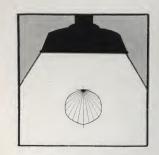
# IVANHOE

### HOW TO SELECT THE PROPER TYPE OF REFLECTOR

#### RLM STANDARD DOME

This type of reflector fufills the requirements of the majority of lighting installations. The light is directed on both the vertical and horizontal surfaces. The depth of the reflector provides ample protection from glare of the lamp filament when used at the average mounting height.

Listed on pages 16, 18, 22, 24, 28, 30, 34, 35.



#### STANDARD SHALLOW DOME

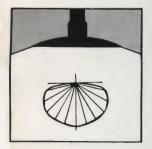
This type is ideally suited for indoor or outdoor installation where glare from a partially shielded lamp is not objectionable and where close vision is not required. It allows for much wider spacing than the Standard RLM Dome, and is generally used for storage rooms, and such places where quality of illumination is not so important.

Listed on pages 16, 18, 22, 24, 28, 30, 34, 35.



#### FLAT CONE

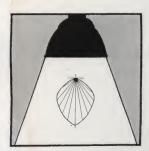
The Flat Cone reflector is ideal for those locations where a wide distribution of light is required and where glare from an unshielded lamp is not objectionable. It is used mostly for outdoor installations. Listed on pages 22, 24, 28, 30.



#### RLM STANDARD BOWL

This type of reflector is especially suitable for locations where the reflector must be mounted low to avoid excessive glare. The lamp filament is shielded at a lower angle. Bowl reflectors are also suitable, in the smaller sizes, for localized lighting where a high intensity is desired over a small area.

Listed on pages 16, 18, 22, 24, 28, 30.



#### RLM STANDARD ANGLE

The Standard Angle Reflector is particularly suitable, in the larger sizes, for machine shops, etc., where cranes and other obstructions make it necessary to build up from the side the illumination on the working plane. In the smaller sizes, the Standard Angle reflector is also suitable for localized lighting.

Listed on pages 16, 18, 22, 24, 28, 30.



F.O.B. Meriden, Conn.

### HOW TO SELECT THE PROPER TYPE OF REFLECTOR



#### HIGH MOUNTING TYPE

The Ivanhoe High Mounting Reflector is made with two types of light distribution — flood, and concentrating type. It is especially designed for high mounting where a very high intensity of light is required over a small area, such as in crane bays, foundries, assembly floors, and similar locations.

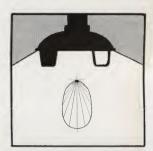
Listed on pages 32, 33, 37.



#### SUP-LITE

As its name implies, this unit is designed to supplement existing lighting equipment in order to build up intensity over the working area, where high visual acuity is required. Louvres in the bottom of the unit cut off view of the light source, and eliminate all direct glare. It is easily adjusted to practically any angle and facilitates easy mounting.

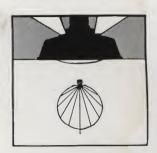
Listed on page 50.



#### AISLE LIGHTING TYPE

The Ivanhoe Aisle Lighting reflector furnishes uniform distribution of light on the vertical surfaces. Typical applications are library bookstacks, storage bins, baggage racks, etc. The shields protect the eyes from glare of the lamp filament, and direct the light on the vertical surfaces.

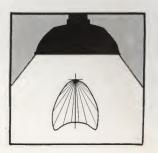
Listed on page 49.



#### GLASSTEEL DIFFUSER

The Glassteel Diffuser is designed for use in those locations where the finest type of illumination is desired and where high intensities are required with a minimum of direct or reflected glare. With its wide range of application, it is one of the most popular generalpurpose lighting units on the market. Shadows are reduced to a minimum and illumination is provided on the vertical as well as on the horizontal surfaces.

Listed on pages 36, 38, 39, 40, 41.



#### RLM SILVERED BOWL DIFFUSER

A direct lighting unit that was developed especially for use with the Silvered Bowl Mazda lamp. Combining porcelain with Alzak aluminum it provides exceptionally high levels of illumination without objectionable glare and is especially suitable for inspection work or for any task where high diffusion, uniformity and freedom from direct glare are essential.

Listed on pages 44, 45.

# HOW TO SELECT THE PROPER SIZE LAMP

Naturally, the size of the lamp to be used depends upon conditions of the room interior and the type of reflector used, but the most important factor is the mounting height of the reflector.

From the table giving recommended standards of illumination, (pages 7 and 8), you can determine the proper footcandle intensity for the given application. This applied to the table below will give you either the wattage of the lamp to be used or the area a certain sized lamp will light to that intensity. For example, if the area to be lighted is 500 square feet, reading across the table you find that one 1500-watt lamp when used with the proper Ivanhoe Reflector will de-

liver approximately 30 footcandles of light
— a 1000-watt lamp, 19 footcandles, etc.

On the other hand, if a certain wattage of lamp is to be used in a given area, and it is desired to find the intensity of illumination, read down the chart to the area in square feet and the approximate footcandle intensity is given. For example, if a 200-watt lamp is to be used to light an area of 300 square feet, the intensity would be approximately 5 footcandles.

When there is any question as to the size of lamp to be used, to secure uniformity of illumination, it is always advisable to use the next higher wattage lamp.

#### LAMP WATTS

	1500 Watt	1000 Watt	750 Watt	500 Watt	300 Watt	200 Watt	150 Watt	100 Watt
Area in Sq. Ft.			FOOT	CANDLI	EINTEN	SITY		
100				40	26	14	10	6
200			36	22	12	7+	5	3
300		32	22	14	8	5	3	2
400	38	24	17	11 –	6	4	2+	1+
500	30	19	13+	8+	õ	3	2	
600	25	16	11+	7	4	2+		
700	21	13+	10 -	6+	3+	2		
800	19	12	8+	5+	3	2		
900	17	10+	7+	5	3	1		
1000	15	9+	7	5 –	3 –			
1200	12+	8	5+	4 –	2			
1400	11	7	5	3				
1600	9	6	4+	3 –				
1800	8+	5+	4	2+				
2000	7+	5	3+	2				

F.O.B. Meriden, Conn.

# HOW TO DETERMINE MOUNTING HEIGHT OR SPACING OF IVANHOE REFLECTORS

#### Distribution of Light

To obtain uniform distribution of light it must be kept in mind that the spacing of lighting units is governed by the height of the light source above the surface to be illuminated. In the chart below, the working plane is considered to be 30 inches above the floor. Units spaced too far apart for their height furnish very uneven illumination and working positions midway between units will be inadequately lighted and harsh shadows also will result.

The accompanying charts show, in graphic

form, the six main types of Ivanhoe Industrial reflectors and the proper mounting heights in relation to spacing for each type of reflector.

For instance, if the outlets already are installed, to find the proper mounting height in relation to the spacing of the reflector, lay a ruler on the figure representing the distance between outlets, and read across. On the other hand, to determine the proper spacing of the outlets, read across from the mounting height.

#### FLAT CONE

Ideal for those locations where a wide distribution of light is required and where glare from an unshielded lamp is not undesirable.

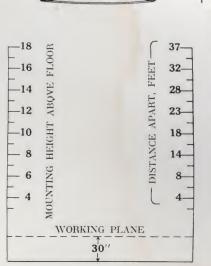
#### SHALLOW DOME

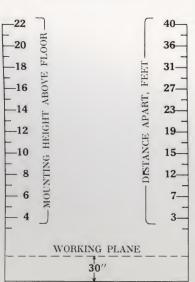
This type is ideally suited for indoor or outdoor installations where glare from a partially shielded lamp is not objectionable and where close vision is not required.

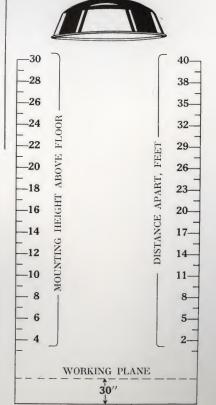
# RLM STANDARD DOME OR GLASSTEEL DIFFUSER

Fulfills the requirements of the majority of lighting installations. Wide distribution of light on both vertical and horizontal surfaces.









# HOW TO DETERMINE MOUNTING HEIGHT OR SPACING OF IVANHOE REFLECTORS

#### BOWL TYPE

Especially suitable for locations where reflector must be mounted low to avoid excessive glare. Suitable in the smaller sizes for localized lighting where high intensity over a small area is required.

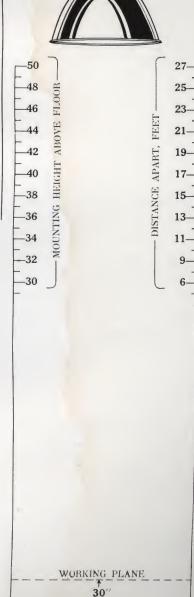
#### MEDIUM BAY TYPE

This type of reflector with its flood-type distribution of light is ideal for mounting heights up to 36 feet. It is particularly adaptable for lighting high bays, where the lighting equipment must be mounted high above the floor or the working plane.

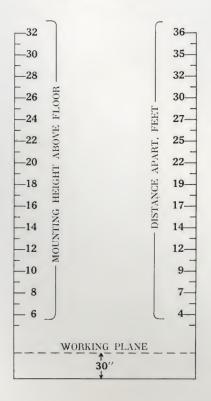
#### HIGH BAY TYPE

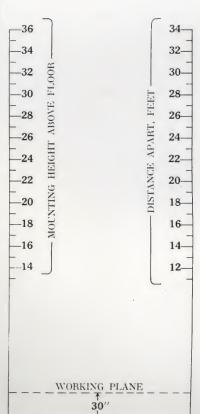
Similar to the Medium Bay Unit, but furnishes a concentrated distribution of light for higher mounting.





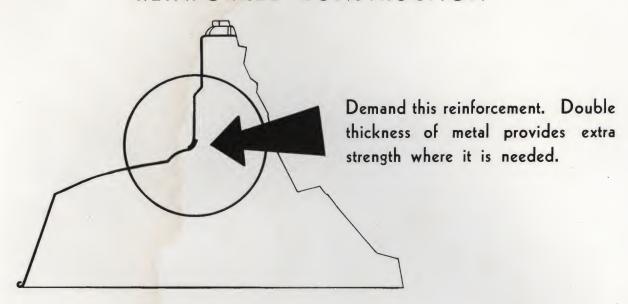






F.O.B. Meriden, Conn.

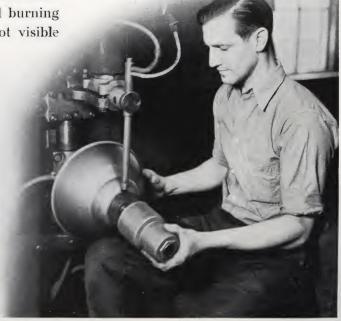
# IVANHOE REFLECTORS ARE OF TWO-PIECE REINFORCED CONSTRUCTION



To meet the demands for reflector equipment that is stronger and more durable, with a uniform thickness of metal, all Ivanhoe porcelain enameled reflectors are of two-piece construction, with the patented continuous weld. As shown in the illustration above, the neck is attached to the reflector proper, by a continuous weld—not spot welded—but welded

all the way around the reflector to make one sturdy unit. Porcelain enamel is then fused into the seams and smoothed with a special burning tool to make a perfect seam that is not visible from the outside.

Electrical welding machines used in Ivanhoe patented continuous weld (Patent No. 1,347,355) reflector construction.

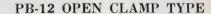


# HOLDERS FOR THE 21/4" SHADE HOLDER REFLECTOR

As shown below, separable holders for the B-Heel Shade Holder Type of reflector are available for both outlet box and conduit mounting. The Ivanhoe Snap-Lock holders may also be used with this type of reflector, for attaching it directly to the socket.

#### **OB-10 OUTLET BOX TYPE**

For 4" Outlet Box





For 1/2" Conduit Only

#### PB-16 ENCLOSED CAST TYPE



For 1/2" or 3/4" Conduit

#### OB-10—OUTLET BOX TYPE

No. OB-10 set-screw holder is finished in green Duco and is for attachment to 4-inch outlet boxes. The reflector is held securely by three set screws which fit into the heel on the reflector. It is equipped with a medium base porcelain receptacle. List Price \$1.25.

#### PB-12—OPEN CLAMP TYPE

For 1/2-Inch Conduit Only

No. PB-12 holder is securely locked to the heel of the reflector by three clamps that fit into the heel. When the locking ring is pushed down the clamps are held firmly in place. Holder is equip-

ped with medium base two-piece porcelain socket. Can be supplied with shock-absorbing socket at 10c each list additional. List Price \$1.20.

#### PB-16—ENCLOSED CAST TYPE

For ½" or ¾" Conduit

No. PB-16 standard aluminum enclosed clamptype holder. Reflector is held by two clamps which are secured by turning cap down on body of the holder, gripping the heel between the clamps and the inside flange of the holder. Cap has left-hand thread. Equipped with medium base two-piece porcelain socket. Can be supplied with shock-absorbing socket at 10c each list additional. List Price \$1.95.

# IVANHOE SNAP-LOCK HOLDERS

For B-Heel Reflectors



Attaching to Porcelain Sockets List Price \$0.20



D Holder for Attaching to Brass Shell Sockets List Price \$0.20





S Holder for Attaching to Heavy Duty Threaded Shell Sockets List Price \$0.20



No tools are required to attach the Ivanhoe Snap-Lock Holders to B-Heel reflectors. The lugs on the holder snap under the heel of the reflector fastening the holder and reflector securely together, as shown in the accompanying illustrations.

Type S Holder is for attaching to Heavy Duty threaded shell sockets such as G-E Nos. 2742, to 2749, and G-E Nos. 2323 and 2324. Also similar types of sockets as manufactured by Bryant, Arrow, Pass and Seymour.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE 21/4" SHADE HOLDER REFLECTORS B-HEEL TYPE



With the Shade Holder type of reflector it is possible to complete all wiring before hanging the reflector. The heel in the reflector neck makes it possible to use any of the three different types of separable holders, listed on opposite page, for either conduit or outlet box mounting; also the Snap-Lock holders for attaching the reflector directly to the socket—listed on pages 18 and 19.

B-Heel reflector only can be attached to  $2\frac{1}{4}$ " Uno-shade holder.

#### REFLECTORS ONLY

C. A. C.	Catalog Number	List Price	Delivery Code*	Lamp Watts	Dimer Diam.	ı. In. Depth		Wt. Lbs.
	<b>BEDD- 75</b>	\$1.90	A	75	12	5	10	22
	<b>BEDD-100</b>	1.90	A	100	12	$5\frac{1}{2}$	10	22 .
	BEDD-150	2.20	A	150	14	$6\frac{3}{4}$	10	29
RLM STANDARD DOME	BEDD-200	2.60	A	200	161/4	77/8	10	40
TVANHOE AND	BEL- 60	\$1.15	В	50-60	8	$6\frac{1}{2}$	10	12
	BEL- 75	1.45	В	75	8	7	10	14
	BEL-100	1.45	В	100	8	$7\frac{1}{2}$	10	15
	BEL-150	1.95	В	150	10	$9\frac{1}{4}$	10	20
STANDARD ANGLE								
	BEB- 60	\$1.50	В	50-60	7	45/8	10	11
	BEB- 75	1.60	В	75	8	$5\frac{3}{8}$	10	13
	BEB-100	1.60	В	100	8	$5\frac{7}{8}$	10	14
	BEB-150	2.20	С	150	10	$7\frac{3}{8}$	10	20
STANDARD BOWL								
	BED- 60	\$1.25	A	40-50-60	$10\frac{1}{4}$	$3\frac{1}{4}$	10	15
	BED- 75	1.45	A	75	$12\frac{1}{2}$	4	10	18
	BED-100	1.70	A	100	$12\frac{1}{4}$	$4\frac{3}{4}$	10	19
	BED-150	1.90	A	150	14	6	10	25
STANDARD SHALLOW DOME	BED-200	2.50	В	200	$15\frac{1}{4}$	$6\frac{1}{2}$	10	34

Finish: Green porcelain enamel outside, white porcelain enamel inside.

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE 21/4" SHADE HOLDER REFLECTORS B-HEEL TYPE

#### HOLDERS AND SOCKETS ONLY



#### Outlet Box Type for 4"Boxes

Steel, green Duco finish. Has medium base porcelain receptacle

Catalog Number	List Price	Delivery Code*		Wt. Lbs. Std. Pkg.	
OB-10	\$1.25	A	10	20	



#### †Pendant Type for 1/2" Conduit

Has medium base porcelain socket

Catalog	List	Delivery		Wt. Lbs.
Number	Price	Code*		Std. Pkg.
PB-12	\$1.20	A	10	10



#### †Pendant Type for 1/2" Conduit

Cast aluminum — natural finish. Has medium base porcelain socket

Catalog	List	Delivery		Wt. Lbs.
Number	Price	Code*		Std. Pkg.
PB-16	\$1.95	A	10	15

#### REFLECTORS COMPLETE WITH SOCKETS AND HOLDERS

Catalog numbers and prices below include reflectors on opposite page in combination with holders and sockets as above.

			Wt. Lbs.				Wt.				Wt
Catalog Number	List Price	Std. Pkg.	Std. Pkg.	Catalog Number	List Price	Std. Pkg.	Lbs. Std. Pkg.	Catalog Number	List Price	Std. Pkg.	Lbs Std Pkg
OBEDD- 75	\$3.15	10	42	PBEDD- 75-12	\$3.10	10	32	PBEDD- 75-16	\$3.85	10	37
OBEDD-100	3.15	10	42	PBEDD-100-12	3.10	10	32	PBEDD-100-16	3.85	10	37
OBEDD-150	3.45	10	49	PBEDD-150-12	3.40	10	39	PBEDD-150-16	4.15	10	44
OBEDD-200	3.85	10	60	PBEDD-200-12	3.80	10	50	PBEDD-200-16	4.55	10	65
OBEL- 60	\$2.40	10	32	PBEL- 60-12	\$2.35	10	22	PBEL- 60-16	\$3.10	10	27
OBEL- 75	2.70	10	34	PBEL- 75-12	2.65	10	24	PBEL- 75-16	3.40	10	29
OBEL-100	2.70	10	35	PBEL-100-12	2.65	10	25	PBEL-100-16	3.40	10	30
OBEL-150	3.20	10	40	PBEL-150-12	3.15	10	30	PBEL-150-16	3.90	10	35
OBEB- 60	\$2.75	10	31	PBEB- 60-12	\$2.70	10	21	PBEB- 60-16	\$3.45	10	26
OBEB- 75	2.85	10	33	PBEB- 75-12	2.80	10	23	PBEB- 75-16	3.55	10	28
OBEB-100	2.85	10	34	PBEB-100-12	2.80	10	22	PBEB-100-16	3.55	10	29
OBEB-150	3.45	10	40	PBEB-150-12	3.40	10	30	PBEB-150-16	4.15	10	35
OBED- 60	\$2.50	10	35	PBED- 60-12	\$2.45	10	25	PBED- 60-16	\$3.20	10	30
OBED- 75	2.70	10	38	PBED- 75-12	2.65	10	28	PBED- 75-16	3.40	10	33
OBED-100	2.95	10	39	PBED-100-12	2.90	10	29	PBED-100-16	3.65	10	34
OBED-150	3.15	10	45	PBED-150-12	3.10	10	35	PBED-150-16	3.85	10	40
OBED-200	3.75	10	54	PBED-200-12	3.70	10	44	PBED-200-16	4.45	10	49

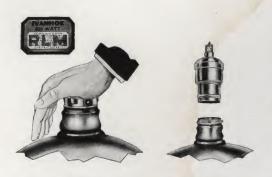
<sup>†</sup>PB-16 Holder will be tapped for ¾" conduit on request at no extra charge. PB-12 and PB-16 holders can be supplied with shock absorbing socket at \$0.10 each list additional.

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE 21/4" SHADE HOLDER REFLECTORS B-HEEL TYPE



No tools are required to attach Ivanhoe Snap-Lock Holders (listed on following page) to B-heel type Shade Holder Reflectors. \*Lugs on the holder snap under the heel of the reflector fastening the reflector and holder securely together.

B-Heel reflector only can be attached to  $2\frac{1}{4}$ " Unoshade holder.

#### REFLECTORS ONLY

TVANHOE	Catalog Number	List Price	Deliver		Dime Diam.			Wt. Lbs Std. Pkg
	BEDD- 75	\$1.90	A	75	12	5	10	22
	BEDD-100	1.90	A	100	12	$5\frac{1}{2}$	10	22
	BEDD-150	2.20	A	150	14	$6\frac{3}{4}$	10	29
RLM STANDARD DOME	BEDD-200	2.60	A	200	$16\frac{1}{4}$	77/8	10	40
	BEL- 60	\$1.15	В	50-60	8	$6\frac{1}{2}$	10	12
	BEL- 75	1.45	В	75	8	$\frac{0}{2}$	10	14
			_					15
	BEL-100	1.45	В	100	8	$7\frac{1}{2}$	10	
	BEL-150	1.95	В	150	10	$9\frac{1}{4}$	10	20
STANDARD ANGLE	1							
IVANHOE 200 WAIT	BEB- 60	\$1.50	В	50-60	7	$4\frac{5}{8}$	10	11
Constraint of the Constraint o	BEB- 75	1.60	В	75	8	$5\frac{3}{8}$	10	13
and the second	BEB-100	1.60	В	100	8	$5\frac{7}{8}$	10	14
	BEB-150	2.20	С	150	10	$7\frac{3}{8}$	10	20
STANDARD BOWL								
	BED- 60	\$1.25	A	40-50-60	101/4	31/4	10	15
	BED- 75	1.45	A	75	$12\frac{1}{4}$	4	10	18
	BED-100	1.70	A	100	$12\frac{1}{4}$	$4\frac{3}{4}$	10	18
	BED-150	1.90	A	150	14	6	10	25
STANDARD SHALLOW DOME	BED-200	2.50	В	200	$15\frac{1}{4}$	$6\frac{1}{2}$	10	34
DIMID DANIEL DOME								

Finish: Green porcelain enamel outside, white porcelain enamel inside.

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.

WAINING .

# IVANHOE 21/4" SHADE HOLDER REFLECTORS

B-HEEL TYPE

#### HOLDERS ONLY



#### TYPE C HOLDER For Porcelain Sockets

 $\begin{array}{cccccccccc} \mathrm{Cat.} & \mathrm{List} & \mathrm{Delivery} & \mathrm{Std.} & \mathrm{Wt.\ Lbs.} \\ \mathrm{No.} & \mathrm{Price} & \mathrm{Code^*} & \mathrm{Pkg.} & \mathrm{Std.\ Pkg.} \\ \mathbf{C} & \$0.20 & \mathrm{A} & 10 & 1 \end{array}$ 



#### TYPE D HOLDER For Brass Shell Sockets



# TYPE S HOLDER For Heavy Duty Threaded Shell Sockets

#### REFLECTORS COMPLETE WITH HOLDERS

Catalog numbers and prices below include reflectors on opposite page in combination with holders as above.

Catalog Number	List Price		Wt. Lbs. Std.Pkg.	Catalog Number	List Price		Wt. Lbs. Std.Pkg.	Catalog Number	List Price		Wt. Lb
CBEDD- 75	\$2.10	10	23	DBEDD- 75	\$2.10	10	23	SBEDD- 75	\$2.10	10	23
CBEDD-100	2.10	10	23	DBEDD-100	2.10	10	23	SBEDD-100	2.10	10	23
CBEDD-150	2.40	10	30	DBEDD-150	2.40	10	30	SBEDD-150	2.40	10	30
CBEDD-200	2.80	10	41	DBEDD-200	2.80	10	41	SBEDD-200	2.80	10	41
CBEL- 60	\$1.35	10	13	DBEL- 60	\$1.35	10	13	SBEL- 60	\$1.35	10	13
CBEL- 75	1.65	10	15	DBEL- 75	1.65	10	15	SBEL- 75	1.65	10	15
CBEL-100	1.65	10	16	DBEL-100	1.65	10	16	SBEL-100	1.65	10	16
CBEL-150	2.15	10	21	DBEL-150	2.15	10	21	SBEL-150	2.15	10	21
CBEB- 60	\$1.70	10	12	DBEB- 60	\$1.70	10	12	SBEB- 60	\$1.70	10	12
<b>CBEB- 75</b>	1.80	10	14	DBEB- 75	1.80	10	14	SBEB- 75	1.80	10	14
CBEB-100	1.80	10	15	DBEB-100	1.80	10	15	SBEB-100	1.80	10	15
<b>CBEB-150</b>	2.40	10	21	DBEB-150	2.40	10	21	SBEB-150	2.40	10	21
CBED- 60	\$1.45	10	16	DBED- 60	\$1.45	10	16	SBED- 60	\$1.45	10	16
<b>CBED- 75</b>	1.65	10	19	DBED- 75	1.65	10	19	SBED- 75	1.65	10	19
CBED-100	1.90	10	19	DBED-100	1.90	10	19	SBED-100	1.90	10	19
CBED-150	2.10	10	26	DBED-150	2.10	10	26	SBED-150	2.10	10	26
CBED-200	2.70	10	35	DBED-200	2.70	10	35	SBED-200	2.70	10	35

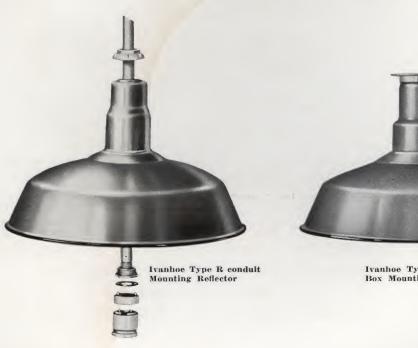
<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

### IVANHOE TYPE R REFLECTORS

For Conduit or Outlet Box Mounting



Ivanhoe Type R Outlet Box Mounting Reflector

The Ivanhoe Type R Conduit Mounting or Outlet Box Cover Reflectors are furnished complete with socket ready for wiring. The pendant (PR) solid top construction makes a completely weatherproof reflector assembly. The PR socket assembly is fitted with a special brass cap for either ½- or ¾-inch conduit. The outlet box cover (OR) solid top reflectors are equipped with detachable outlet box covers and socket assemblies. The socket itself has all the features of the PR socket assembly. One particularly unique feature of conduit mounting type of reflector is the left-hand thread on the

aluminum socket casting cap which permits tightening the cap on the reflector without loosening the pipe connection at the ceiling. The reflector itself will not turn when the cap is being tightened. Another advantage of the Ivanhoe Conduit Mounting Pendant Type reflector is that it can be pushed up on the conduit making the socket easily accessible for wiring. After wiring is completed the reflector is put back in place and the aluminum cap is tightened, holding the reflector in a fixed position.

### IVANHOE VENTILATED AND SHOCK-ABSORBING SOCKETS

#### VENTILATED SOCKETS

The accompanying illustration shows the construction of the Ivanhoe Shockabsorbing socket as well as the special ventilated socket for mogul base lamps.

The ventilated body dissipates heat from the contact mechanism and eliminates welding or "freezing" of the lamp bases, yet firm pressure between contacts is maintained.

#### SHOCK-ABSORBING SOCKETS

In those locations where the lamp filament is subjected to severe vibration, the use of Ivanhoe shock-absorbing sockets will materially decrease maintenance costs by lengthening the lamp life. The mechanism which is interposed between the socket fitting and the socket, cushions the lamp so that impacts encountered do not seriously affect the lamp filament. The shock-absorbing mechanism is available for either medium or mogul base lamp sockets.



# IVANHOE MEDIUM BASE SOCKETS

#### CONDUIT MOUNTING TYPE



PR-1

Two-piece porcelain socket with left - hand threaded top casting.

Delivery Code*A
Std. Pkg
Wt. Lbs., Std. Pkg. 4
List Price \$1.05



PR-2

Same as PR-1 except it has the shock - absorbing mechanism.

Delive	ry Co	ode*	A
Std. P	kg		5
Wt. Lb	s., Sto	d. Pkg	5.42
List P	rice	\$	1.15



PR-7

Spacer socket assembly for 75-wattreflectors when RLM Label is required.

Den	very		0(1	e T		A
Std.	Pkg	·				5
Wt. I	bs.	S	td.	Pk;	g.	4
List	Pric	ce		\$	1.0	)5



PR-8

Same as PR-7 except it has the shock - absorbing mechanism.

Delivery Code*A
Std. Pkg 5
Wt. Lbs., Std. Pkg. 4½
List Price\$1.15



Two-piece porcelain bottom pull chain socket.

Delivery Code* A
Std. Pkg 5
Wt. Lbs., Std. Pkg. 4½
List Price\$1.85

#### **OUTLET BOX MOUNTING TYPE**



OR-1

Two-piece porcelain socket with outlet box cover.

Delivery Code*A
Std. Pkg
Wt. Lbs., Std. Pkg. 4
List Price\$1.05



OR-2

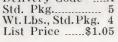
Same as OR-1 except it has the shock - absorbing mechanism.

Deli	very C	ode*	A
	Pkg		
Wt.1	Lbs., St	d.Pk	$g.4\frac{1}{2}$
List	Price	\$	1.15



OR-7

Spacer socket assembly for 75-watt reflectors when RLM Label is required. Delivery Code\* ....A





OR-8

Same as OR-7 except it has the shock - absorbing mechanism.

Delivery Code*A
Std. Pkg 5
Wt. Lbs., Std. Pkg. 4½
List Price\$1.15

OUTLET BOX MOUNTING TYPE



OR-3

Two-piece porcelain bottom pull chain socket.

Delivery Code\* ....B Std. Pkg............. 5 Wt. Lbs., Std. Pkg. 4½ List Price .....\$1.85

# IVANHOE MOGUL BASE SOCKETS

#### CONDUIT MOUNTING TYPE



PR.

Mogul socket with ventilated body which dissipates heat.

dissiputes	Heur.	
Delivery	Code*	A
Std. Pkg.		5
Wt. Lbs.,	Std. P	kg7½
List Price	e	\$1.50



PR-5

Mogul ventilated socket with shock-absorbing mechanism.

Delivery Code\*

A

Deli	very	Code	*	A
Std.	Pkg.			. 5
Wt.	Lbs.,	Std.	Pkg	. 8
List	Pric	e	\$1	.60



OR-4

Mogul socket with ventilated body which dissipates heat.

Deli	verv	Code	*	.A
Std.	Pkg.			5
Wt.	Lbs.,	Std.	Pkg	$7\frac{1}{2}$
List	Price	9	\$1.	50



OR-5

Mogul ventilated socket with shock-absorbing mechanism.

Delivery	Code*A
	5
Wt. Lbs.	, Std. Pkg 8
List Pric	ce\$1.60

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Type PR sockets regularly tapped for ½" conduit but will be furnished for ¾" conduit upon request at no extra cost.

Type OR sockets fit 4" outlet box.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

### IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS



The conduit mounting reflector is furnished complete with socket ready for wiring. The reflector can be pushed up on the conduit making the socket easily accessible for wiring.

In those locations where the lamp filament may be damaged by excessive vibration, shock-absorbing sockets should be used. The shock-absorbing mechanism which is interposed between the socket fitting and the socket, cushions the lamp so that vibration and impact will not affect the lamp filament.

All sockets are tapped for ½-inch conduit as standard, but can be supplied tapped for ¾-inch conduit upon request at no extra charge.

#### REFLECTORS ONLY

IVANHOE BOO WATT	Cat.	List Price	Lamp Watts	Delivery Code*	—Dime		Std.	Wt. Lbs.
	REDD-100	\$2.25	75	A	12	8	Pkg. 10	Std. Pkg
	REDD-100	2.25	75±-100	A	12	8	10	22
	REDD-150	2.45	150	A	14	9 1/2	10	30
	REDD-200	3.05	200	A	161/4	101/2	10	40
	REDD-500	3.80	300-500	A	18	1134	5	25
	REDD-1000	5.70	750-1500	C	2034	141/2	4	30
RLM STANDARD DOME					2074	11/2		
IVANHOE 200 WATE	REL-100	\$1.90	75	A	8	10	10	22
ETEXT	REL-100	1.90	$75 \ddagger -100$	A	8	10	10	22
Charleson battain	REL-150	2.40	150	A	10	12	10	30
	REL-200	2.90	200	A	12	14	6	22
	REL-500	3.45	300 - 500	В	14	15%	6	30
STANDARD ANGLE	REL-1000	6.10	750-1500	С	161/4	$19\frac{1}{4}$	4	26
IVANHOE 200 WATT	REB-100	\$2.05	75	С	8	83/4	10	22
	REB-100	2.05	75‡-100	C	8	83/4	10	22
	REB-200	2.45	150	С	10	11	10	30
	REB-200	2.45	150‡-200	C	10	11	10	30
	REB-500	3.70	300 - 500	C	12	$12\frac{1}{4}$	5	17
STANDARD BOWL	REB-1000	4.90	750-1500	С	$16\frac{1}{4}$	16	4	26
	REC-100	\$2.25	75	В	14	5	10	22
	REC-100	2.25	75-100	В	14	5	10	22
	REC-150	2.45	150	В	16	534	10	35
	REC-200	3.05	200	C	18	71/2	10	40
	REC-500	3.80	300-500	Č	18	7 1/s	5	22
FLAT CONE						. 70		
	RED-100	\$2.25	75	A	121/4	7½	10	18
	RED-100	2.25	75–100	A	$12\frac{1}{4}$	7 1/2	10	18
	RED-150	2.45	150	A	14	8	10	31
	RED-200	3.05	200	A	151/4	91/4	6	26
	RED-500	3.80	300-500	C	18	11	4	32
STANDARD SHALLOW DOME	3722 000	0.00	300 300	G	10		•	02
STANDARD SHALLOW DUME								

Finish: Green porcelain enamel outside, white porcelain enamel inside. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

‡Not RLM standard when equipped with lamp watts indicated.

# IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS



PR-1 Standard Medium Socket SOCKET ONLY List Price..\$1.05

Delivery Code\*.... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4



PR-2 Shock-Absorbing Medium Socket SOCKET ONLY List Price....\$1.15

Delivery Code\* .....A Standard Pkg...... 5 Wt. Lbs., Std. Pkg. 4½



PR-3 Pull Chain Medium Socket SOCKET ONLY List Price .... \$1.85

Delivery Code\*..... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 42



PR-4 Standard Mogul Socket SOCKET ONLY List Price..\$1.50

Delivery Code\*.... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 7½



PR-5 Shock-Absorbing Mogul Socket SOCKET ONLY

List Price .... \$1.60 Delivery Code\* ..... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 8

#### REFLECTORS COMPLETE WITH SOCKETS

Catalog numbers and prices below include reflectors on opposite page in combination with sockets as above.

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
PREDD-75 <sup>*</sup>	\$3.30	PREDD-75-SA	\$3.40						
PREDD-100	3.30	PREDD-100-SA	3.40	PREDD-100-PC	\$4.10				
PREDD-150	3.50	PREDD-150-SA	3.60	PREDD-150-PC	4.30				
PREDD-200	4.10	PREDD-200-SA	4.20	PREDD-200-PC	4.90				
						PREDD-500	\$5.30	PREDD-500-SA	\$5.40
	•••••					PREDD-1000	7.20	PREDD-1000-S	SA 7.30
PREL-75*	\$2.95	PREL-75-SA	\$3.05						
PREL-100	2.95	PREL-100-SA	3.05	PREL-100-PC	\$3.75				
PREL-150	3.45	PREL-150-SA	3.55	PREL-150-PC	4.25				
PREL-200	3.95	PREL-200-SA	4.05	PREL-200-PC	4.75				
						PREL-500	\$4.95	PREL-500-SA	\$5.05
						PREL-1000	7.60	PREL-1000-SA	7.70
PREB-75*	\$3.10	PREB-75-SA	\$3.20						
PREB-100	3.10	PREB-100-SA	3.20	PREB-100-PC	\$3.90				
PREB-150 <sup>▲</sup>	3.50	PREB-150-SA*	3.60			****			
PREB-200	3.50	PREB-200-SA	3.60	PREB-200-PC	4.30			***************************************	
						PREB-500	\$5.20	PREB-500-SA	\$5.30
						PREB-1000	6.40	PREB-1000-SA	6.50
PREC-75	\$3.30	PREC-75-SA	\$3.40						
PREC-100	3.30	PREC-100-SA	3.40	PREC-100-PC	\$4.10				
PREC-150	3.50	PREC-150-SA	3.60	PREC-150-PC	4.30				
PREC-200	4.10	PREC-200-SA	4.20	PREC-200-PC	4.90				
						PREC-500	\$5.30	PREC-500-SA	\$5.40
PRED-75 <sup>4</sup>	\$3.30	PRED-75-SA*	\$2.40						
PRED-100	3.30	PRED-75-SA- PRED-100-SA	\$3.40 3.40	PRED-100-PC	\$4.10			**	
PRED-150	3.50	PRED-150-SA	3.60	PRED-150-PC	4.30				
PRED-200	4.10	PRED-200-SA	4.20	PRED-200-PC	4.90				
1 RED-200	4.10	1 111D-200-5A	4.20	1111111-200-1	4.90	PRED-500	\$5.30	PRED-500-SA	\$5.40
			0=00000			111111-000	ψυ.υυ	TABB-000-SA	ψυ. <del>-</del> Τυ

\*Time required to fill orders A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

▲These reflectors are equipped with spacer socket assemblies PR-7 or PR-8 (shock-absorbing) which are ½ inch longer than the standard PR-1 or PR-2 sockets so that lamps will be correctly positioned as required for RLM label.

For Standard Package weights of reflectors complete with sockets add weights of reflectors only to weights of sockets.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE TYPE R OUTLET BOX MOUNTING REFLECTORS



Typical Assembly

The outlet box mounting reflector is furnished complete with socket ready for wiring.

In those locations where the lamp filament may be damaged by excessive vibration, Ivanhoe Shock-absorbing sockets should be used. The shock-absorbing mechanism which is interposed between the socket fitting and the socket, cushions the lamp so that vibration and impact will not affect the lamp filament.

#### REFLECTORS ONLY

							-	
IVANHOE 200 WATT	Cat. No.	List Price	Lamp Watts	Delivery Code*		n., In.— Depth	Std. Pkg.	Wt. Lbs. Std. Pkg.
	REDD-100	\$2.25	75	A	12	8	10	22
	REDD-100	2.25	75‡-100	A	12	8	10	22
	REDD-150	2.45	150	A	14	$9\frac{1}{2}$	10	30
	REDD-200	3.05	200	A	$16\frac{1}{4}$	$10\frac{1}{2}$	10	40
	REDD-500	3.80	300-500	A	18	$11\frac{3}{4}$	5	25
RLM STANDARD DOME	REDD-1000	5.70	750-1500	С	203/4	$14\frac{1}{2}$	4	30
IVANHOE A	REL-100	\$1.90	75	A	8	10	10	22
	REL-100	1.90	$75 \pm -100$	A	8	10	10	22
The state of the s	REL-150	2.40	150	A	10	12	10	30
	REL-200	2.90	200	A	12	14	6	22
	REL-500	3.45	300-500	В	14	$15\frac{5}{8}$	6	30
STANDARD ANGLE	REL-1000	6.10	750 - 1500	C	$16\frac{1}{4}$	$19\frac{1}{4}$	4	26
IVANHOE -200 WATT	REB-100	\$2.05	75	С	8	83/4	10	22
	REB-100	2.05	75±-100	C	8	83/4	10	22
Control or souther date.	REB-200	2.45	150	C	10	11	10	30
	REB-200	2.45	150±-200	C	10	11	10	30
	REB-500	3.70	300-500	C	12	$12\frac{1}{4}$	5	17
STANDARD BOWL	REB-1000	4.90	750-1500	C	$16\frac{1}{4}$	16	4	26
	REC-100	\$2.25	75	В	14	5	10	22
	REC-100	2.25	75–100	В	14	5 5	10	22
				В	16	5 5¾		
	REC-150 REC-200	2.45	$\frac{150}{200}$	С	18	$\frac{5\%}{7\frac{1}{2}}$	10	$\frac{35}{40}$
		3.05	300-500	C	18	7 1/2 7 1/8	10 5	22
FLAT CONE	REC-500	3.80	300-300	C.	18	1 /8	Э	22
	DED 100	<b>***</b>	P1 P		101/	Ħ1/	10	10
	RED-100	\$2.25	75	A	121/4	$7\frac{1}{2}$	10	18
	RED-100	2.25	75–100	A	$12\frac{1}{4}$	$7\frac{1}{2}$	10	18
	RED-150	2.45	150	A	14	8	10	31
	RED-200	3.05	200	A	151/4	91/4	6	26
STANDARD SHALLOW DOME	RED-500	3.80	300-500	С	18	11	4	32

Finish: Green porcelain enamel outside, white porcelain enamel inside. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

‡Not RLM standard when equipped with lamp watts indicated.

### IVANHOE TYPE R OUTLET BOX MOUNTING REFLECTORS



**OR-1** Standard Medium Socket SOCKET ONLY List Price..\$1.05

Delivery Code\* ....A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4



OR-2 Shock-Absorbing Medium Socket SOCKET ONLY List Price...\$1.15

Delivery Code\* .....A Standard Pkg...... 5 Wt. Lbs., Std. Pkg. 4½



OR-3 Pull Chain Medium Socket SOCKET ONLY

List Price .... \$1.85 Delivery Code\*.....B



**OR-4** Standard Mogul Socket SOCKET ONLY

List Price. \$1.50

Delivery Code\* .... A Standard Pkg. 5 Standard Pkg. 5 Wt. Lbs., Std. Pkg. 4½ Wt. Lbs., Std. Pkg. 7½



OR-5 Shock-Absorbing Mogul Socket SOCKET ONLY List Price .... \$1.60

Delivery Code\* .....A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 8

#### REFLECTORS COMPLETE WITH SOCKETS

Catalog numbers and prices below include reflectors on opposite page in combination with sockets as above.

Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
OREDD-75	\$3.30	OREDD-75-SA	\$3.40						
OREDD-100	3.30	OREDD-100-SA	3.40	OREDD-100-PC	\$4.10				
OREDD-150	3.50	OREDD-150-SA	3.60	OREDD-150-PC	4.30	***************************************			
OREDD-200	4.10	OREDD-200-SA	4.20	OREDD-200-PC	4.90				
		*************				OREDD-500	\$5.30	OREDD-500-SA	\$5.40
7					•	OREDD-1000	7.20	OREDD-1000-S	A 7.30
OREL-75 <sup>*</sup>	\$2.95	OREL-75-SA	\$3.05	***************************************					
<b>OREL-100</b>	2.95	OREL-100-SA	3.05	OREL-100-PC	\$3.75	***************************************			
OREL-150	3.45	OREL-150-SA	3.55	OREL-150-PC	4.25				
OREL-200	3.95	OREL-200-SA	4.05	OREL-200-PC	4.75				
						OREL-500	\$4.95	OREL-500-SA	\$5.05
· · · · · · · · · · · · · · · · · · ·					*	OREL-1000	7.60	OREL-1000-SA	7.70
OREB-75*	\$3.10	OREB-75-SA	\$3.20			******			
OREB-100	3.10	OREB-100-SA	3.20	OREB-100-PC	\$3.90				
OREB-150 <sup>A</sup>	3.50	OREB-150-SA*	3.60						
OREB-200	3.50	OREB-200-SA	3.60	OREB-200-PC	4.30				******
						OREB-500	\$5.20	OREB-500-SA	\$5.30
				*********		OREB-1000	6.40	OREB-1000-SA	6.50
OREC-75*	\$3.30	OREC-75-SA	\$3.40						
OREC-100	3.30	OREC-100-SA	3.40	OREC-100-PC	\$4.10				**
OREC-150	3.50	OREC-150-SA	3.60	OREC-150-PC	4.30				
OREC-200	4.10	OREC-200-SA	4.20	OREC-200-PC	4.90	*************			
						OREC-500	\$5.30	OREC-500-SA	\$5.40
OPED ==4	40.00	OPED SE SAA	<b>#2.40</b>						
ORED-75*	\$3.30	ORED-75-SA	\$3.40	OPED 100 DC					
ORED-100	3.30	ORED-100-SA ORED-150-SA	3.40	ORED-100-PC	\$4.10	***************************************			
ORED-150	3.50		3.60	ORED-150-PC	4.30		*******		
ORED-200	4.10	ORED-200-SA	4.20	ORED-200-PC	4.90	OPED 500	er 20	OPED FOR CA	
						ORED-500	\$5.30	ORED-500-SA	\$5.40

\*Time required to fill orders A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

AThese reflectors are equipped with spacer socket assemblies OR-7 or OR-8 (shock-absorbing) which are ½ inch longer than standard OR-1 or OR-2 sockets so that lamps will be correctly positioned as required for RLM label.

For Standard Package weights of reflectors complete with sockets add weights of reflectors only to weights of sockets.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

(Rating 15 amperes, 125 volts)

# IVANHOE DISCONNECTING SOCKET ASSEMBLIES



Ivanhoe Disconnecting Holders allow for quick and easy removal of entire lighting unit without disturbing wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete reflector assembly.

Installation and maintenance costs are lowered when Ivanhoe Disconnecting Type Reflectors are used. All parts are interchangeable. After the upper caps (either pendant or outlet box types) are once wired and installed, it is not necessary to disturb the wiring to remove



the entire lighting unit, including the lamp, and any other Ivanhoe Disconnecting Reflector assembly may be applied, either medium or mogul socket types, without changing the upper cap.

These disconnecting socket assemblies carry the Underwriters' approval and may be used with any solid top reflector. They are rugged and fool-proof. The PX type is standard for attachment to ½-inch conduit; the OX type is standard for attachment to 3¼-inch or 4-inch outlet boxes.

#### WITH MEDIUM BASE SOCKETS

#### CONDUIT MOUNTING TYPE—MEDIUM BASE



Two-piece porcelain socket complete with disconnecting holder.

Delivery Code\*....A Std. Pkg. 5 Wt. Lbs., Std. Pkg. 4 List Price......\$1.35



mechanism.

List Price......\$1.45 List Price.....\$1.35



connecting holder. mechanism. Delivery Code\*.... A Delivery Code\*.... A 

 Std. Pkg.
 5
 Std. Pkg.
 5

 Wt. Lbs., Std. Pkg. 4½
 Wt. Lbs., Std. Pkg. 4½



Delivery Code\*.... A Delivery Code\*.... A List Price......\$1.45 List Price.....\$2.15



Same as PX-1 except socket has shock-absorbing Spacer socket for Same as PX-7 except socket has shock-absorbing complete with dissections shock-absorbing complete with dissections. connecting holder. Std. Pkg. 5 Wt. Lbs., Std. Pkg. 4½

#### OUTLET BOX MOUNTING TYPE - MEDIUM BASE



Two-piece porcelain socket complete with disconnecting holder.

Delivery Code\*.... A Std. Pkg. 5 Wt. Lbs., Std. Pkg. 4 List Price......\$1.35



OX-2

Same as PX-1 except socket has mechanism.

Std. Pkg. 5 Wt. Lbs., Std. Pkg. 4½ List Price......\$1.45 List Price.....\$1.35



Spacer socket for Same as PX-7 ex- Two-piece bottom 75-watt reflectors cept socket has pull chain socket shock-absorbing complete with disconnecting holder. Delivery Code\*.... A Delivery Code\*.... A Std. Pkg. 5 Wt. Lbs., Std. Pkg. 41



mechanism.

Delivery Code\*....A Delivery Code\*....A 

 Std. Pkg.
 5
 Std. Pkg.
 5

 Wt. Lbs., Std. Pkg.
 4½
 Wt. Lbs., Std. Pkg.
 4½

OUTLET BOX MOUNTING TYPE



shock-absorbing complete with disconnecting holder. List Price......\$1.45 List Price.....\$2.15

# DISCONNECTING ASSEMBLIES WITH MOGUL BASE SOCKETS

#### CONDUIT MOUNTING TYPE



Mogul ventilated socket complete with disconnecting holder.

Deli	very	Code	*	A
	Pkg.			
	Lbs.,			
List	Price	e	\$1	1.90



PX-5

Mogul ventilated socket with shock-absorbing mechanism complete with holder.

Deli	very	Code	*	A
Wt.	Lbs.,	Std.	Pkg	. 8
List	Price	e	\$2	.00



Mogul ventilated socket complete with disconnecting holder.

Deli	very	Code	* A	
Std.	Pkg.		5	,
Wt.	Lbs.,	Std.	Pkg71	
List	Price	e	\$1.90	)



Mogul ventilated socket with shock-absorbing mechanism complete with holder.

Deliv	ery	Code	*	A
Std.	Pkg.			5
Wt. 1	Lbs.,	Std.	Pkg	8
List	Price		\$	2 00

PX socket assemblies tapped for ½" conduit only. OX socket assemblies are for 3¼" or 4" outlet boxes. \* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

26

32

6

4

February 1, 1939

Inspected by Underwriters' Laboratories
(Rating 15 amperes, 125 volts)

F.O.B. Meriden, Conn.

# IVANHOE DISCONNECTING TYPE REFLECTORS

#### WITH PENDANT HOLDERS

REFLECTORS ONLY



STANDARD SHALLOW DOME

Ivanhoe disconnecting type reflectors can be attached to, or detached from, the holder without disturbing the wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete reflector assembly. Pins in the bottom half of the holder lock into the key-way of the upper portion of the holder making a solid connection. Complete unit consists of reflectors listed below in combination with any of the socket assemblies shown on opposite page.

#### Wt. Lbs. Delivery -Dimen., In.-Std. Cat. List Lamp Std. Pkg. Watts Code\* Diam. Depth Pkg. Price 22 10 8 **REDD-100** \$2.25 75 A 12 8 22 12 10 $75 \ddagger -100$ A **REDD-100** 2.25 14 91/2 10 30 A 150 **REDD-150** 2.45 40 200 A 161/4 $10\frac{1}{2}$ 10 REDD-200 3.05 5 25 18 1134 **REDD-500** 3.80 300 - 500A 4 30 203/4 141/2 C 750 - 1500REDD-1000 5.70 RLM STANDARD DOME 8 10 10 22 A 75 **REL-100** \$1.90 22 $75 \ddagger -100$ A 8 10 10 **REL-100** 1.90 A 10 12 10 30 **REL-150** 2.40 150 6 22 12 14 **REL-200** 2.90 200 A 15% 30 300-500 В 14 **REL-500** 3.45 191/4 26 C 161/4 750 - 1500**REL-1000** 6.10 STANDARD ANGLE 22 8 8 3/4 10 75 C **REB-100** \$2.05 83/4 22 751-100 C 8 10 **REB-100** 2.05 10 30 C 10 11 **REB-200** 2.45 150 1501-200 11 30 C 10 **REB-200** 2.45 C 12 121/4 5 17 300-500 **REB-500** 3.70 26 750-1500 C 161/4 16 4 **REB-1000** 4.90 STANDARD BOWL 22 В 14 5 10 **REC-100** 75 \$2.25 B 14 5 10 22 75 - 100**REC-100** 2.25 **REC-150** 2.45 150 В 16 5 3/4 10 35 40 200 C 18 $7\frac{1}{2}$ 10 **REC-200** 3.05 22 $\mathbf{C}$ 18 7 1/8 5 300-500 **REC-500** 3.80 FLAT CONE 121/4 71/2 10 18 **RED-100** \$2.25 75 A 121/4 $7\frac{1}{2}$ 10 18 75-100 A RED-100 2.25 8 10 31 150 A 14 RED-150 2.45

Finish: Green porcelain enamel outside, white porcelain enamel inside. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. ‡Not RLM standard when equipped with lamp watts indicated.

3.05

3.80

RED-200

**RED-500** 

200

300-500

A

C

 $15\frac{1}{4}$ 

18

91/4

11

occ. in - rage 49

(Rating 15 amperes, 125 volts)

February 1, 1939

### IVANHOE DISCONNECTING TYPE REFLECTORS WITH PENDANT HOLDERS



PX-1 Standard Medium Socket ASSEMBLY

Delivery Code\* .... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4

List Price..\$1.35



PX-2 Shock-Absorbing Medium Socket ASSEMBLY List Price.... \$1.45 Delivery Code\* .....A Standard Pkg..... 5

Wt. Lbs., Std. Pkg. 41



PX-3 Pull Chain Medium Socket ASSEMBLY List Price.... \$2.15 Delivery Code\* .....B Standard Pkg..... 5



PX-4 Standard Mogul Socket ASSEMBLY List Price.. \$1.90 Delivery Code\* .... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4½ Wt. Lbs., Std. Pkg. 7½



PX-5 Shock-Absorbing Mogul Socket ASSEMBLY List Price....\$2.00 Delivery Code\* .... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 8

#### REFLECTORS COMPLETE WITH SOCKET ASSEMBLIES

Catalog numbers and prices given below include reflectors on opposite page in combination with socket assemblies as above.

			-	_		7		1	
Cat.	List Price	Cat.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat.	List Price
PXEDD-75*	\$3.60	PXEDD-75-SA							
PXEDD-100	3.60	PXEDD-100-SA	3.70	PXEDD-100-P					
PXEDD-150	3.80	PXEDD-150-SA	3.90	PXEDD-150-P	C 4.60				
PXEDD-200	4.40	PXEDD-200-SA	4.50	PXEDD-200-P	5.20				
		~~~~				PXEDD-500	\$5.70	PXEDD-500-SA	\$5.80
						PXEDD-1000	7.60	PXEDD-1000-S	A 7.70
DVDI	40.05	PXEL-75-SA	<b>#2.25</b>			Ì			
PXEL-75	\$3.25	PXEL-75-SA- PXEL-100-SA	\$3.35 3.35	PXEL-100-PC	\$4.05		********		
PXEL-100	3.25	PXEL-100-SA PXEL-150-SA	3.85	PXEL-150-PC	4.55			***************************************	*******
PXEL-150	3.75	PXEL-130-SA PXEL-200-SA	4.35	PXEL-200-PC	5.05				
PXEL-200	4.25	PAEL-200-5A	4.33	FAEL-200-1 C		PXEL-500	\$5.35	PXEL-500-SA	<b></b>
						PXEL-1000	8.00	PXEL-1000-SA	\$5.45
					*******	FAEL-1000	8.00	FAEL-1000-SA	8.10
PXEB-75▲	\$3.40	PXEB-75-SA*	\$3.50						
PXEB-100	3.40	PXEB-100-SA	3.50	PXEB-100-PC	\$4.20				
PXEB-150⁴	3.80	PXEB-150-SA	3.90	PXEB-150-PC	4.60				
PXEB-200	3.80	PXEB-200-SA	3.90	PXEB-200-PC	4.60				
		*******				PXEB-500	\$5.60	PXEB-500-SA	\$5.70
***************************************						PXEB-1000	6.80	PXEB-1000-SA	6.90
PXEC-75 <sup>4</sup>	\$3.60	PXEC-75-SA*	\$3.70						
PXEC-100	3.60	PXEC-100-SA	3.70	PXEC-100-PC	\$4.40				
PXEC-150	3.80	PXEC-150-SA	3.90	PXEC-150-PC	4.60				*******
PXEC-200	4.40	PXEC-200-SA	4.50	PXEC-200-PC	5.20				
1 AEC-200	7.70	1 1120-200-511	1100	11120 200 1 0		PXEC-500	\$5.70	PXEC-500-SA	\$5.80
							70.70	11110 000 011	Ψ5.00
PXED-75▲	\$3.60	PXED-75-SA*	\$3.70						
PXED-100	3.60	PXED-100-SA	3.70	PXED-100-PC	\$4.40	****			
PXED-150	3.80	PXED-150-SA	3.90	PXED-150-PC	4.60	*************			
PXED-200	4.40	PXED-200-SA	4.50	PXED-200-PC	5.20				
					*******	PXED-500	\$5.70	PXED-500-SA	\$5.80
PXED-200	4.40	PXED-200-SA	4.50	PXED-200-PC					

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. AThese reflectors are equipped with spacer socket assemblies PX7 or PX-8 (shock-absorbing) which are ½ inch longer than standard PX-1 or PX-2 sockets so that lamps will be correctly positioned as required for RLM label. For reflectors less upper cap PX order as XEDD, XED, XED, etc., deduct \$0.80 list from prices given. The depth of complete units as listed above is 3½ inches greater than the dimensions given for the reflectors only. For Standard Package weights of reflectors complete with socket assembly add weights of reflectors only to weights of socket assemblies.



Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

(Rating 15 amperes, 125 volts)

# IVANHOE DISCONNECTING TYPE REFLECTORS

#### WITH OUTLET BOX HOLDERS



Ivanhoe disconnecting type reflectors can be attached to, or detached from, the holder without disturbing the wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete reflector assembly. Pins in the bottom half of the holder lock into the key-way of the upper portion of the holder making a solid connection. Complete unit consists of reflectors listed below in combination with any of the socket assemblies shown on opposite page.

REF	LECT	<b>TORS</b>	ON	LY

IVANHOE 200 WATT	Cat.	List Price	Lamp Watts	Delivery Code*	—Dime	n., In.— Depth	Std. Pkg.	Wt. Lbs. Std. Pkg
[三萬之]	REDD-100	\$2.25	75	A	12	8	10	22
	REDD-100	2.25	75±-100	A	12	8	10	22
	REDD-150	2.45	150	A	14	9 1/2	10	30
	REDD-200	3.05	200	A	161/4	101/2	10	40
	REDD-500	3.80	300-500	A	18	1134	5	25
RLM STANDARD DOME	REDD-1000	5.70	750-1500	C	20%	141/2	4	30
IVANHOE	REL-100	\$1.90	75	A	8	10	10	22
200 WATT	REL-100	1.90	75±-100	A	8	10	10	22
	REL-150	2.40	150	A	10	12	10	30
	REL-200	2.90	200	A	12	14	6	22
	REL-500	3.45	300-500	В	14	15 %	6	30
STANDARD ANGLE	REL-1000	6.10	750-1500	С	$16\frac{1}{4}$	191/4	4	26
IVANHOE	REB-100	\$2.05	75	С	8	8 3/4	10	22
	REB-100	2.05	75±-100	C	8	83/4	10	22
Carrier Control	REB-200	2.45	150	C	10	11	10	30
	REB-200	2.45	150±-200	C	10	11	10	30
ALC: NO.	REB-500	3.70	300-500	C	12	$12\frac{1}{4}$	5	17
STANDARD BOWL	REB-1000	4.90	750-1500	С	$16\frac{1}{4}$	16	4	26
	REC-100	\$2.25	75	В	14	5	10	22
	REC-100	2.25	75–100	В	14	5	10	22
	REC-150	2.45	150	В	16	5 3/4	10	35
	REC-200	3.05	200	C	18	$7\frac{1}{2}$	10	40
	REC-500	3.80	300-500	Č	18	7 1/8	5	22
FLAT CONE	KEC-500	3.60	300-300		10	1 /8		22
	RED-100	\$2.25	75	A	121/4	7½	10	18
	RED-100	2.25	75–100	A	121/4	$7\frac{1}{2}$	10	18
	RED-100	2.45	150	A	14	8	10	31
	RED-130	3.05	200	A	151/4	91/4	6	26
	RED-500	3.80	300-500	C	18	11	4	32
STANDARD SHALLOW DOME								

Finish: Green porcelain enamel outside, white porcelain enamel inside. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

‡Not RLM standard when equipped with lamp watts indicated.

(Rating 15 amperes, 125 volts)

#### IVANHOE DISCONNECTING TYPE REFLECTORS WITH OUTLET BOX HOLDERS



**OX-1** Standard Medium Socket ASSEMBLY

List Price. \$1.35

Delivery Code\* .... A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4



OX-2 Shock-Absorbing Medium Socket ASSEMBLY

List Price.... \$1.45 Delivery Code\* .....A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4½



OX-3 Pull Chain Medium Socket ASSEMBLY

List Price....\$2.15 List Price...\$1.90 Delivery Code\* .....B Delivery Code\* ....A Standard Pkg..... 5 Wt. Lbs., Std. Pkg. 4½ Wt. Lbs., Std. Pkg. 7½



**OX-4** Standard Mogul Socket ASSEMBLY

Standard Pkg.....



OX-5 Shock-Absorbing Mogul Socket ASSEMBLY

List Price.... \$2.00 Delivery Code\* .... A Standard Pkg...... 5 Wt. Lbs., Std. Pkg. 8

#### REFLECTORS COMPLETE WITH SOCKET ASSEMBLIES

Catalog numbers and prices given below include reflectors on opposite page in combination with socket assemblies as above.

Price	No.	List Price	Cat. No.	List Price	Cat. No.	List Price	Cat. No.	List Price
\$3.60	OXEDD-75-SA	\$3.70			*************		***************************************	
3.60	OXEDD-100-SA	3.70	OXEDD-100-PO	\$4.40	***************************************			
3.80	OXEDD-150-SA	3.90	OXEDD-150-PO	4.60				
4.40	OXEDD-200-SA	4.50	OXEDD-200-PO	5.20				
					OXEDD-500	\$5.70	OXEDD-500-SA	\$5.80
				*******	OXEDD-1000	7.60	OXEDD-1000-S	SA 7.70
\$3.25	OXEL-75-SA	\$3.35						*****
3.25	OXEL-100-SA	3.35	OXEL-100-PC	\$4.05				
3.75	OXEL-150-SA	3.85	OXEL-150-PC	4.55	***************************************		***************************************	
4.25	OXEL-200-SA	4.35	OXEL-200-PC	5.05				******
					OXEL-500	\$5.35	OXEL-500-SA	\$5.45
					OXEL-1000	8.00	OXEL-1000-SA	8.10
\$3.40	OXEB-75-SA	\$3.50						
3.40	OXEB-100-SA	3.50	OXEB-100-PC	\$4.20			***************************************	*******
3.80	OXEB-150-SA*	3.90						******
3.80	OXEB-200-SA	3.90	OXEB-200-PC	4.60				
					OXEB-500	\$5.60	OXEB-500-SA	\$5.70
					OXEB-1000	6.80	OXEB-1000-SA	6.90
\$3.60	OXEC-75-SA*	\$3.70				*******		
3.60	OXEC-100-SA	3.70	OXEC-100-PC	\$4.40	0 / 4 0 4 0 4 0 0 0 1 1 1 0 4 0 0 1 1 1 0 1			
3.80	OXEC-150-SA	3.90	OXEC-150-PC	4.60				
4.40	OXEC-200-SA	4.50	OXEC-200-PC	5.20				
					OXEC-500	\$5.70	OXEC-500-SA	\$5.80
\$2.60	OVED 75 SAA	\$3.70						
								******
4.40	OALD-200-SA	4.50	011111111111111111111111111111111111111	0.20				\$5.80
	\$3.25 3.25 3.25 3.75 4.25 \$3.40 3.80 3.80 3.60 3.80 4.40	3.60 OXED-100-SA 4.40 OXEDD-200-SA 4.40 OXEDD-200-SA 4.40 OXEL-100-SA 3.25 OXEL-100-SA 3.75 OXEL-150-SA 4.25 OXEL-150-SA 4.25 OXEL-200-SA  \$3.40 OXEB-75-SA 3.40 OXEB-100-SA 3.80 OXEB-100-SA 3.80 OXEC-100-SA 3.80 OXEC-100-SA 4.40 OXEC-200-SA 4.40 OXEC-150-SA 4.40 OXEC-150-SA 3.60 OXED-150-SA 3.60 OXED-150-SA	3.60 OXED-100-SA 3.70 3.80 OXEDD-150-SA 3.90 4.40 OXEDD-200-SA 4.50  \$3.25 OXEL-75-SA* \$3.35 3.25 OXEL-100-SA 3.85 4.25 OXEL-150-SA 3.85 4.25 OXEL-150-SA 3.85 4.25 OXEL-200-SA 4.35  \$3.40 OXEB-75-SA* \$3.50 3.40 OXEB-100-SA 3.50 3.80 OXEB-100-SA 3.90  \$3.60 OXEC-100-SA 3.70 3.80 OXEC-150-SA 3.90 4.40 OXEC-200-SA 4.50  \$3.60 OXEC-150-SA 3.70 3.80 OXED-150-SA 3.70 3.80 OXED-100-SA 3.70 3.80 OXED-100-SA 3.70 3.80 OXED-100-SA 3.70 3.80 OXED-100-SA 3.70	3.60 OXEDD-100-SA 3.70 OXEDD-100-PC 3.80 OXEDD-150-SA 3.90 OXEDD-150-PC 4.40 OXEDD-200-SA 4.50 OXEDD-200-PC  \$3.25 OXEL-75-SA* \$3.35 3.75 OXEL-100-SA 3.85 OXEL-100-PC 0XED-200-PC  \$3.40 OXEB-75-SA* \$3.50 3.40 OXEB-100-SA 3.50 3.80 OXEB-150-SA 3.90 3.80 OXEB-150-SA 3.90 3.80 OXEB-200-SA 3.90  \$3.60 OXEC-75-SA* \$3.70 3.60 OXEC-150-SA 3.90 4.40 OXEC-200-SA 4.50 OXEC-150-PC  \$3.60 OXEC-150-SA 3.90  \$3.60 OXED-150-SA 3.70  \$3.60 OXED-150-SA 3.90  \$3.60 OXED-150-SA 3.90  \$3.60 OXED-150-SA 3.90  \$3.60 OXED-150-SA 3.90	3.60 OXEDD-100-SA 3.70 OXEDD-100-PC \$4.40 OXEDD-150-SA 3.90 OXEDD-150-PC 4.60 OXEDD-200-SA 4.50 OXEDD-200-PC 5.20 OXED-100-PC \$4.05 OXEL-100-SA 3.35 OXEL-100-SA 3.85 OXEL-150-PC 4.55 OXEL-200-SA 4.35 OXEL-200-PC 5.05 OXEL-200-SA 3.50 OXED-100-PC \$4.20 3.80 OXEB-150-SA 3.90 OXEB-200-PC 4.60 OXED-200-PC 4.60 OXEC-100-SA 3.70 OXEC-100-PC \$4.40 OXEC-200-SA 4.50 OXEC-150-PC 4.60 OXEC-200-PC 5.20 OXED-100-PC \$4.40 OXEC-200-SA 4.50 OXEC-200-PC 5.20 OXED-100-PC \$4.40 OXEC-200-SA 3.70 OXEC-200-PC 5.20 OXED-100-PC \$4.40 OXEC-200-SA 3.70 OXEC-200-PC 5.20 OXED-150-PC 4.60 OXED-150-PC 4.60 OXEC-200-PC 5.20 OXED-150-PC 4.60 OXED-150-PC 4.60 OXED-150-PC 4.60 OXED-150-PC 4.60 OXED-150-PC 4.60 OXED-150-PC 4.60	3.60 OXEDD-100-SA 3.70 OXEDD-100-PC \$4.40	3.60 OXEDD-100-SA 3.70 OXEDD-100-PC \$4.40	3.60 OXEDD-100-SA 3.70 OXEDD-100-PC \$4.40 OXEDD-150-SA 3.90 OXEDD-200-PC 5.20 OXEDD-200-SA 4.50 OXEDD-200-PC 5.20 OXEDD-1000 7.60 OXEDD-1000-S  \$3.25 OXEL-75-SA^ \$3.35 OXEL-100-SA 3.35 OXEL-100-PC \$4.05 OXED-1000 7.60 OXEDD-1000-S  \$3.25 OXEL-150-SA 3.85 OXEL-150-PC 4.55 OXEL-200-PC 5.05 OXEL-200-PC 5.05 OXEL-100-SA 3.85 OXEL-100-PC \$4.05 OXEL-1000 8.00 OXEL-1000-SA 0XEL-1000-SA 0XEL-100-PC \$4.40 OXEL-100-SA 0XEL-1000-SA 0XEL-1000

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. AThese reflectors are equipped with spacer socket assemblies OX-7 or OX-8 (shock-absorbing) which are ½ inch longer than the standard OX-1 or OX-2 sockets so that lamps will be correctly positioned as required for RLM label. For reflectors less upper cap OX order XEDD, XED, XED, etc., deduct \$8.0.80 list from prices given. The depth of complete units as listed above is 3½ inches greater than the dimensions given for the reflectors only. For Standard Package weights of reflectors complete with socket assembly add weights of reflectors only to weights of socket assemblies.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE ALUMINUM HIGH MOUNTING UNITS

These units meet the exacting demands of industry for the lighting of such areas as crane bays, foundries, assembly floors, or other locations where the lighting equipment must be mounted from 25 to 100 feet above the floor. They are also suitable for outdoor areas.

Reflectors are made of aluminum with the

Alzak finish which produces excellent light output and control. The finish will not depreciate, is easy to clean, and is not affected by heat, dirt, or other atmospheric conditions.

Reflectors are available with two types of light distribution and in the various holders and sockets as listed.



# FLOOD TYPE DISTRIBUTION REFLECTORS ONLY

RAF-500	\$10.50	RAF-1000	\$12.00	RAF-1500 \$1	5.00
Lamp Watts	300-500	Lamp Watts 78	50-1000	Lamp Watts 750-	1500
Delivery Code*	В	Delivery Code*	В	Delivery Code*	В
Diameter, Inches	14	Diameter, Inches	$16\frac{1}{4}$	Diameter, Inches	18
Depth, Inches	14	Depth, Inches	$16\frac{1}{2}$	Depth, Inches	19
Standard Package	4	Standard Package	4	Standard Package	4
Wt., Lbs., Std. Pl	kg. 13	Wt., Lbs., Std. Pk	g. 28	Wt., Lbs., Std. Pkg.	28

#### REFLECTORS COMPLETE WITH SOCKETS

SOLID TOP TYPE

	SOCKETS§	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
PR-4	PENDANT TYPE† Standard Mogul Shock-absorbing Mogul	PRAF-500	\$12.00	PRAF-1000	\$13.50	PRAF-1500	\$16.50
PR-5		PRAF-500-SA	12.10	PRAF-1000-SA	13.60	PRAF-1500-SA	16.60
OR-4	OUTLET BOX TYPE Standard Mogul Shock-absorbing Mogul	ORAF-500	\$12.00	ORAF-1000	\$13.50	ORAF-1500	\$16.50
OR-5		ORAF-500-SA	12.10	ORAF-1000-SA	13.60	ORAF-1500-SA	16.60

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY)!

PX-4	PENDANT TYPE Standard Mogul Shock-absorbing Mogul	PXAF-500	\$12.40	PXAF-1000	\$13.90	PXAF-1500	\$16.90
PX-5		PXAF-500-SA	12.50	PXAF-1000-SA	14.00	PXAF-1500-SA	17.00
OX-4	OUTLET BOX TYPE Standard Mogul Shock-absorbing Mogul	OXAF-500	\$12.40	OXAF-1000	\$13.90	OXAF-1500	\$16.90
OX-5		OXAF-500-SA	12.50	OXAF-1000-SA	14.00	OXAF-1500-SA	17.00

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

<sup>§</sup> For listing sockets only, see page 21. † Tapped for ½" conduit, but will be supplied tapped for ¾" conduit on request at no extra charge. ‡ For listing disconnecting socket assemblies, see page 27.

# IVANHOE ALUMINUM HIGH MOUNTING UNITS CONCENTRATING TYPE DISTRIBUTION



#### REFLECTORS ONLY

RAS-200	\$7.95	RAS-500	\$12.00	RAS-1000 \$1	5.00
Lamp Watts	200	Lamp Watts	300-500		-1500
Delivery Code*	В	Delivery Code*	В	Delivery Code*	В
Diameter, Inches	12	Diameter, Inches	161/4	Diameter, Inches	18
Depth, Inches	13	Depth, Inches	$15\frac{3}{4}$	Depth, Inches	19
Standard Package	4	Standard Packag	e 4	Standard Package	4
Wt., Lbs., Std. Pkg	g. 9	Wt., Lbs., Std. P	kg. 18	Wt., Lbs., Std. Pkg.	29

#### REFLECTORS COMPLETE WITH SOCKETS SOLID TOP TYPE

	SOCKETS§	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price
	PENDANT TYPE†						
PR-1	Standard Medium	PRAS-200	\$ 9.00				
PR-2	Shock-absorbing Medium	PRAS-200-SA	9.10				
PR-3	Pull-chain Medium	PRAS-200-PC	9.80				
PR-4	Standard Mogul			PRAS-500	\$13.50	PRAS-1000	\$16.50
PR-5	Shock-absorbing Mogul			PRAS-500-SA	13.60	PRAS-1000-SA	16.60
OR-1	OUTLET BOX TYPE Standard Medium	ORAS-200	\$ 9.00				
OR-2	Shock-absorbing Medium	ORAS-200-SA	9.10				
OR-3	Pull-chain Medium	ORAS-200-PC	9.80				
OR-4	Standard Mogul			ORAS-500	\$13.50	ORAS-1000	\$16.50
OR-5	Shock-absorbing Mogul			ORAS-500-SA	13.60	ORAS-1000-SA	16.60

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY) ‡

	PENDANT TYPE						
PX-1	Standard Medium	PXAS-200	\$ 9.30				
PX-2	Shock-absorbing Medium	PXAS-200-SA	9.40				
PX-3	Pull-chain Medium	PXAS-200-PC	10.10				
PX-4	Standard Mogul			PXAS-500	\$13.90	PXAS-1000	\$16.90
PX-5	Shock-absorbing Mogul			PXAS-500-SA	14.00	PXAS-1000-SA	17.00
	OUTLET BOX TYPE						
OX-1	Standard Medium	OXAS-200	\$ 9.30				
OX-2	Shock-absorbing Medium	OXAS-200-SA	9.40				
OX-3	Pull-chain Medium	OXAS-200-PC	10.10				
OX-4	Standard Mogul			OXAS-500	\$13.90	OXAS-1000	\$16.90
OX-5	Shock-absorbing Mogul			OXAS-500-SA	14.00	OXAS-1000-SA	17.00

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

<sup>§</sup> For listing sockets only, see page 21.
† Tapped for ½" conduit, but will be supplied tapped for ¾" conduit on request at no extra charge.
‡ For listing disconnecting socket assemblies, see page 27.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE HEAVY DUTY REFLECTORS

31/4" Threaded Neck Type



Ivanhoe Heavy Duty Reflectors are designed for industrial locations, steel mills, foundries, etc., where it is necessary to have ruggedly constructed reflectors that will stand severe service conditions.

The heavy gauge copper neck is locked onto the porcelain reflector and holds the reflector securely in the threaded separable

holder. It will not loosen in the holder even under severe vibration.

The reflectors are porcelain enameled inside and outside to withstand corrosion and to provide maximum reflection efficiency. Outside finish, green porcelain enamel; inside finish, white porcelain enamel.

## REFLECTORS ONLY

Reflectors in combination with different separable holders are listed on the opposite page.



## HEDD Standard Dome Type

The Standard Dome Reflector fulfills the requirements of the majority of lighting installations. The light is directed on both the vertical and horizontal surfaces. The depth of the reflector shields the eye from glare of the lamp filament when mounted at all average heights.

Cat. Lis	t Delivery	Lamp	Dimen	., Inches		XXX: X.1
No. Pri		Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
HEDD-100 \$2. HEDD-150 2. HEDD-200 3. HEDD-500 3. HEDD-1000 5.	A A A A	75-100 150 200 300-500 750-1500	12 14 16 <sup>1</sup> / <sub>4</sub> 18 20 <sup>3</sup> / <sub>4</sub>	5 <sup>3</sup> / <sub>8</sub> 6 <sup>1</sup> / <sub>2</sub> 7 <sup>3</sup> / <sub>8</sub> 8 <sup>1</sup> / <sub>2</sub> 11 <sup>1</sup> / <sub>2</sub>	10 10 10 5	22 30 40 30 35





## HED Shallow Dome Type

This type of reflector is designed for those locations where glare from a partially shielded lamp is not objectionable. It provides a wider spread of light than the Standard Dome type and should be mounted lower for proper light distribution.

C-4	T	TO 11	*	Dimen	., Inches	G. 1	TY7. T.1
Cat. No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
HED-100	\$2.20	D	75-100	121/4	53/4	10	25
HED-200	3.00	D	200	151/4	$6\frac{3}{8}$	10	30
HED-500	3.70	D	300-500	18	83/4	5	30

Finish: Green porcelain enamel outside; white porcelain enamel inside.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE HEAVY DUTY REFLECTORS

31/4" Threaded Neck Type

Complete unit consists of reflector in combination with any of the separable holders listed below.





HEDD DOME TYPE | HED SHALLOW DOME

#### HOLDERS ONLY

REFLECTORS COMPLETE WITH HOLDER

	HOLDERS	ONL	7			KEFLECIORS C	.OMPI	TELE WITH HC	DLDER
				PEND	ANT TY	PE			
	Catalog Price No. Each	Del. Code*	Std. Pkg.	Wt. Lbs. Std. Pkg.	I amp Watts		List Price	Catalog No.	List Price
PH-14	PH-14 \$1.10  Medium Porcelain Socket Green Porcelain Enamel Finish	A	10	10 {	75-100 150 200	PHEDD-100-14 PHEDD-150-14 PHEDD-200-14	\$3.30 3.50 4.10	PHED-100-14 PHED-200-14	\$3.30 4.10
PH-16	PH-16 \$2.30  Medium Porcelain Socket Natural Aluminum Finish	С	10	15 {	75-100 150 200	PHEDD-100-16 PHEDD-150-16 PHEDD-200-16	\$4.50 4.70 5.30	PHED-100-16 PHED-200-16	\$4.50 5.30
PH-24	PH-24 \$1.60  Mogul Porcelain Socket Green Porcelain Enamel Finish	A	10	25 {	300-500 750-1500	PHEDD-500-24 PHEDD-1000-24	\$5.30 7.20	PHED-500-24	\$5.30
PH-26	PH-26 \$2.70 Mogul Porcelain Socket Cast Aluminum	С	10	30 {	300-500 750-1500	PHEDD-500-26 PHEDD-1000-26	\$6.40 8.30	PHED-500-26	\$6.40
	0	UTLET	BOX	TYPE FO	OR 4-INC	H OUTLET BOXES	·		
OH-12	OH-12 \$1.10 Medium Porcelain Socket Green Duco Finish	A	10	20 {	75-100 150 200	OHEDD-100-12 OHEDD-150-12 OHEDD-200-12	\$3.30 3.50 4.10	OHED-100-12 OHED-200-12	\$3.30 4.10
OH-10	OH-10 \$2.40  Medium Porcelain Socket Natural Aluminum Finish	В	10	20 {	75-100 150 200	OHEDD-100-10 OHEDD-150-10 OHEDD-200-10	\$4.60 4.80 5.40	OHED-100-10 OHED-200-10	\$4.60 5.40
OH-22	OH-22 \$1.60  Mogul Porcelain Socket Green Duco Finish	С	10	25 {	300-500 750-1500	OHEDD-500-22 OHEDD-1000-22	\$5.30 7.20	OHED-500-22	\$5.30
60	OH-20 <sup>†</sup> \$2.80 • Mogul Porcelain Socket	В	10	25 {	300-500 750-1500	OHEDD-500-20 OHEDD-1000-20	\$6.50 8.40	OHED-500-20	\$6.50

Cast Aluminum

OH-20

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Pendant Holders (type PH) can be supplied with shock-absorbing sockets at \$0.10 list each additional. Add suffix letters "SA" to catalog number when shock-absorbing socket is desired.

Pendant type holders are tapped for ½-inch conduit but will be supplied tapped for ¾-inch conduit on request at no additional between the conduit of the condui

tional charge.

For standard package weights of reflectors complete with holders add weights of reflectors only to weights of holders.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

(Rating 15 Amperes, 125 Volts)

# IVANHOE REFLECTORS FOR BI-POST MAZDA LAMPS

Ivanhoe Bi-Post reflectors on this and the following page have been designed especially for use with the Bi-Post Mazda lamp. They make it possible to secure higher intensity of light from a smaller proportioned fixture. All reflectors are equipped with disconnecting holders which allow for quick and easy removal of entire lighting unit, including lamp, without disturbing wiring connections. These units carry the Underwriters' approval. They are rugged and fool-proof. PX Type is standard for attachment to ½-inch conduit. OX Type is standard for attachment to 3¼-inch outlet boxes.



Only a slight turn and upward pressure is required to take down or replace a complete reflector assembly as shown above.







OX Holder for attachment to 31/4" or 4" Outlet Boxes

#### HOLDERS ONLY

~		** **	Dimension	s, Inches	G. 1 1	TYTE The
Catalog Number	List Price	Delivery Code*	Diameter	Depth	Standard Package	Wt. Lbs. Std. Pkg.
PX S	80.80	A A	2 41/4	$\frac{2\frac{1}{2}}{2\frac{1}{2}}$	10 10	5 5

Note: PX and OX are the upper caps of the disconnecting device for pipe or outlet box mounting.

#### GLASSTEEL DIFFUSER

This is a most practical type of lighting unit for a wide range of factory locations. The large porcelain enameled dome reflector, white inside and out, is supplied standard with a light density Genco glass globe which provides a soft, even level of illumination over a wide area. Harsh shadows and glare are eliminated. For accurate discrimination of colors and tints, Trutint globes should be used.



PXEG-1000-Bi Has Pendant Type Top

## Reflectors Complete with Disconnecting Socket Assemblies and Globe

				Dimension	s, Inches	- Gtondond	Wt. Lbs.
Catalog Number	List Price	Delivery Code*	Lamp Watts	Diameter	Depth	Standard Package	Std. Pkg.
PXEG-1000 Bi OXEG-1000 Bi	\$15.90	CCC	750-1000 Bi-Post 750-1000 Bi-Post	$24\frac{1}{2}$ $24\frac{1}{2}$	$19\frac{1}{2}$ $19\frac{1}{2}$	2 2	$\frac{32}{32}$

## Globes for Replacement

				Dimension	ns, Inches		XXII T.I.
Catalog Number	List Price	Delivery Code*	Fits Reflector Diameter, Inches	Diameter	Depth	Standard Package	Wt. Lbs. Std. Pkg.
G5784x16 Genco G5784x16 TT	\$7.25 9.00	BC	$24\frac{1}{2}$ $24\frac{1}{2}$	16 16	10 10	2 2	20 20

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

(Rating 15 Amperes, 125 Volts)

# IVANHOE REFLECTORS FOR BI-POST MAZDA LAMPS



PXAS-1000-Bi Has Pendant Type Top

# HIGH BAY TYPE Concentrating Type

With its concentrating type of light distribution, this unit is particularly adaptable for the lighting of such areas as crane bays, foundries, assembly floors, and similar locations where the lighting equipment must be mounted high above the floor or working plane.

The Alzak aluminum finish produces excellent light output and control. The finish will not depreciate, is easy to clean and is not affected by heat, dirt, or other atmospheric conditions.

Furnished with disconnecting holders for either conduit or outlet box mounting.

# HIGH BAY TYPE Flood Type

This high-bay unit produces a wider distribution of light than the concentrating type, and is for lower mounting. It also has the Alzak aluminum finish which produces excellent light output and control. It will resist grease, dirt, abrasion, corrosion from salt water and moisture, and will not wear off, tarnish or stain.

The disconnecting holders for either conduit or outlet box mounting make it possible to detach the complete reflector assembly without disturbing wiring connections.



PXAF-1000-Bi Has Pendant Type Top



PXEDD-1000-Bi Has Pendant Type Top

#### DOME TYPE REFLECTOR

This type of reflector fulfills the requirements of the majority of lighting installations. The light is directed on both the vertical and horizontal surfaces.

Where there is an excessive amount of dirt present, the disconnecting type of holder helps to keep maintenance costs at a minimum. It takes but a few seconds to remove complete reflector assembly, clean it, and replace it. The reflector is always held in a fixed position. Finish: green porcelain enamel outside, white porcelain enamel inside.

# Reflectors Complete with Disconnecting Socket Assemblies

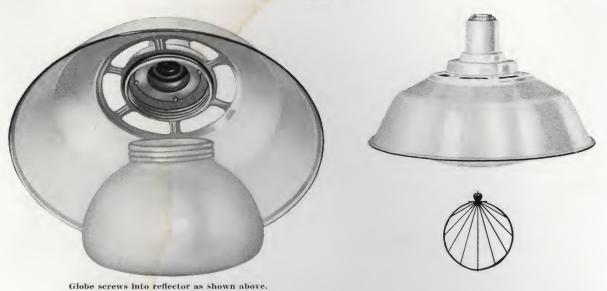
			_	Dimension	s, Inches	- Ctdd	WA The
Catalog Number	List Price	Delivery Code*	Lamp Watts	Diameter	Depth	Standard Package	Wt. Lbs. Std. Pkg.
PXAS-1000-Bi OXAS-1000-Bi	\$16.90 16.90	C	750-1000 Bi-Post 750-1000 Bi-Post	$16\frac{1}{4}$ $16\frac{1}{4}$	$19\frac{1}{2}$ $19\frac{1}{2}$	4 4	24 24
PXAF-1000-Bi OXAF-1000-Bi	$15.40 \\ 15.40$	C	750-1000 Bi-Post 750-1000 Bi-Post	14 14	$18\frac{1}{4}$ $18\frac{1}{4}$	4 4	$\frac{20}{20}$
PXEDD-1000-Bi OXEDD-1000-Bi	$\begin{array}{c} 10.60 \\ 10.60 \end{array}$	C	750-1000 Bi-Post 750-1000 Bi-Post	$20\frac{3}{4}$ $20\frac{3}{4}$	$17\frac{1}{2}$ $17\frac{1}{2}$	4 4	30 30

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE GLASSTEEL DIFFUSERS THREADED TYPE



## Soft Even Level of Illumination with Low Surface Brightness

There is, perhaps, no other type of Ivanhoe lighting unit that is so universally used as the Ivanhoe Glassteel Diffuser for a wide range of industrial as well as commercial applications. The large white porcelain enameled reflector with diffusing globe eliminates harsh and objectionable shadows. It is ideally suited to practically any type of installation where a compact and attractive lighting unit is desired and where the finest quality of illumination obtainable is required.

It is designed for high wattage Mazda C lamps. The white Genco glass globe, furnished as standard equipment, screws into the reflector and rests against an asbestos gasket, sealing the lamp and electrical connections within the globe and holder. (Silvo globes should be specified where light approximating the quality of daylight is desired.) In those locations where dust, lint or other foreign matters are prevalent, it makes possible a substantial saving in maintenance costs. It is unnecessary to remove the globe when cleaning. The large steel white porcelain enameled dome-type reflector provides maximum reflection values and is exceptionally easy to keep clean.

Unless otherwise specified, all Ivanhoe Threaded Type Glassteel Diffusers will be furnished with aperatures in the top which permit some of the light to be directed to the ceiling improving the general quality of the illumination. However, as shown in the accompanying illustration, this type of reflector may be recessed in the ceiling if desired as the screw-type construction eliminates the necessity of having the upper portion of the reflector accessible for relamping.



The Threaded Type Glassteel Diffuser may be recessed in the ceiling making an exceptionally attractive installation.

# IVANHOE GLASSTEEL DIFFUSERS THREADED TYPE

Catalog numbers and prices below indicate reflectors shown on opposite page in combination with holders and sockets as indicated.

DISCONNECTING TYPE — Reflectors Complete with Socket Assemblies

Ivanhoe Glassteel Diffusers equipped with Disconnecting socket assembly allow for quick and easy removal of entire lighting unit including lamp, without disturbing the wiring connections.

With OX Outlet Box Top†	With PX Pendant Top†							
T	A				Dimension	s in Inches		
Catalog Number	Catalog Number	List Price	Delivery Code*	Lamp Watts	Diam.	Depth‡	Std. Pkg.	Wt. Lbs., Std. Pkg.
OXEGS-200	PXEGS-200	\$ 9.30	C	150-200	18	131/2	4	50
OXEGS-200-Silvo	PXEGS-200-Silvo	9.50	C	150-200	18	13½	4	50
OXEGS-500	PXEGS-500	12.90	C	300-500	203/4	16	4	70
OXEGS-500-Silvo	PXEGS-500-Silvo	13.30	C	300-500	203/4	16	4	70

#### HEAVY DUTY THREADED TYPE — Reflectors Complete with Holders and Sockets

With Outlet Box Holder	With Pendant Holder†‡							
					Dimensio	ns in Inches		
Catalog Number	Catalog Number	List Price	Delivery Code*	Lamp Watts	Diam.	Depth ▲	Std. Pkg.	Wt. Lbs., Std. Pkg.
OHEGS-200	PHEGS-200	\$ 9.00	A	150-200	18	12	4	43
OHEGS-200-Silvo	PHEGS-200-Silvo	9.20	C	150-200	18	12	4	43
OHEGS-500	PHEGS-500	12.50	A	300-500	203/4	14	4	50
OHEGS-500-Silvo	PHEGS-500-Silvo	12.90	C	300-500	203/4	14	4	50

#### CONDUIT MOUNTING TYPE - Reflectors Complete with Sockets

With PR-1 Medium Socket†‡	With PR-4 Mogul Socket†‡							
	S 200				Dimension	s in Inches	Std.	Wt. Lbs
Catalog Number	Catalog Number	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Pkg.	Std. Pkg.
PREGS-200 PREGS-200-Silvo		\$ 9.00 9.20	B	150-200 150-200	18 18	11 <sup>3</sup> / <sub>4</sub> 11 <sup>3</sup> / <sub>4</sub>	4	43 43
• • • • • • • • • • • • • • • • • • • •	PREGS-500 PREGS-500-Silvo	12.50 12.90	BC	300-500 300-500	$ \begin{array}{c c} 20\frac{3}{4} \\ 20\frac{3}{4} \end{array} $	$13\frac{1}{4}$ $13\frac{1}{4}$	4 4	60 60

#### GLORES ONLY FOR REPLACEMENT

			Dimension	s in Inches	04.3	Wt. Lbs.,
List Price	Delivery Code*	Fits Reflector Diameter, In.	Diam.	Depth	Std. Pkg.	Std. Pkg.
\$2.30 2.50 3.60	A C A	18 18 20 <sup>3</sup> ⁄ <sub>4</sub>	10 10 12	7½ 7½ 8½	4 4 4	$\begin{array}{c} 14\frac{1}{2} \\ 14\frac{1}{2} \\ 20 \end{array}$
	Price \$2.30	Price         Code*           \$2.30         A           2.50         C           3.60         A	Price Code* Diameter, In.  \$2.30 A 18 2.50 C 18 3.60 A 2034	Price         Code*         Diameter, In.         Diam.           \$2.30         A         18         10           2.50         C         18         10           3.60         A         2034         12           2.034         12         12	Price         Code*         Diameter, In.         Diam.         Depth           \$2.30         A         18         10         7½           2.50         C         18         10         7½           3.60         A         20³4         12         8½           3.60         A         20³4         12         8½	Price   Code*   Diameter, In.   Diam.   Depth   Pkg.

Finish: White porcelain examel inside and outside.

AThe depths given are for Glassteel Diffusers equipped with pendant holders; when equipped with outlet box holders the overall depth is approximately 1 inch less.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

\*Shock absorbing sockets furnished at \$0.10 each list additional. Add suffix letters "SA" to catalog number if desired. For complete listing of sockets, see page 21.

‡Tapped standard for ½-inch conduit but will be tapped for ¾-inch conduit on request at no extra charge.

Reflectors without apertures will be supplied on request at no additional charge.

OXEGS and PXEGS reflectors can be supplied without top part of disconnecting fitting in which case \$0.80 will be deducted from complete unit price. Specify XEGS-200, etc.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE GLASSTEEL DIFFUSERS







As shown in the illustration at the right, lever at the side of reflector releases globe easily and quickly for relamping or cleaning.

The Ivanhoe Standard Glassteel Diffuser is the most practical type of lighting unit for a wide range of industrial locations and provides the same source of soft, even illumination and has the same diffusing qualities as the Threaded Type Glassteel Diffuser, the only difference being in the type of globe holder. In this type of reflector, the globe is supported by a safety-type holder which locks into the shoulder on the globe.

The large porcelain enameled dome reflector, white inside and out, is easy to keep clean and provides maximum reflection values. Harsh shadows and glare are eliminated and a pleasing working area is created by the lighting of the upper areas of the room by the passage of light through the openings in the

top of the reflector. It is furnished standard with a Genco glass diffusing globe, but where accurate color discrimination is essential Trutint globes should be used. Where it is desirable to have light approximating the quality of daylight, Silvo glass globes should be used.

The Ivanhoe Standard Type Glassteel Diffuser is furnished with four different types of holders for a wide variety of applications: The threaded type of separable holder for both conduit and outlet box mounting; the Shade Holder or B-Heel Type for attaching to ½ or ¾ inch conduit; the Conduit Mounting type for either ½ or ¾ inch conduit; and the Disconnecting Type for both conduit and outlet box mounting.

#### GLOBES ONLY FOR REPLACEMENT

Catalog Number		List Price	Delivery Code*	Fits Reflector Diam., Inches	Standard Package	Wt. Lbs. Std. Pkg
G5854x10x6 G5854x10x6	Genco Silvo	\$2.30 2.50	A C	18 18	4 4	12 12
G5854x10x6 G5854x12 G5854x12	TT Genco Silvo	$egin{array}{c} 2.80 \ 3.60 \ 4.00 \ \end{array}$	A	$\begin{array}{c} 18 \\ 20\frac{3}{4} \\ 20\frac{3}{4} \end{array}$	4	12 15 15
G5854x12 G5784x16	TT Genco	$4.35 \\ 7.25$	CB	$20\frac{3}{4}$ $24\frac{1}{2}$	4 2	15 20
G5784x16	TT	9.00	C	241/2	$\overline{2}$	$\overline{20}$

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE GLASSTEEL DIFFUSERS STANDARD TYPE

Reflectors Complete with Holders and Sockets

Catalog numbers and prices below indicate reflectors shown on opposite page with holders and sockets as indicated below.

With Outlet Box Holder	With Pendant Holder†§	Heavy Duty Type Standard Glassteel Diffuser								
					Dimensions in Inches					
		List Price	Delivery Code*	Lamp Watts	Diam.	Depth;	Std. Pkg.	Wt. Lbs., Std. Pkg.		
Catalog Number	—Catalog Number—									
OHEG-200	PHEG-200	\$ 9.00	A	150-200	18	12	4	43		
OHEG-200-Silvo	PHEG-200-Silvo	9.20	C	150-200	18	12	4	43		
OHEG-200-TT	PHEG-200-TT	9.50	C	150-200	18	12	4	43		
OHEG-500	PHEG-500	12.50	A	300-500	20 3/4	14	4	50		
OHEG-500-Silvo	PHEG-500-Silvo	12.90	C	300-500	203/4	14	4	50		
OHEG-500-TT	PHEG-500-TT	13.25	C	300-500	203/4	14	4	50		
OHEG-1000	PHEG-1000	18.50	B	750-1000	24 1/2	16	2	50		
OHEG-1000-TT	PHEG-1000-TT	20.25	C	750-1000	$24\frac{1}{2}$	16	2	50		

Cast Aluminum Holder†§		B-H	B-Heel Type Standard Glassteel Diffuser								
				Dimension	s in Inches		****				
Catalan Number	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.				
PBEG-200	\$ 9.00	D	150-200	18	10 1/2	4	43				
PBEG-200-Silvo	9.20	D	150-200	18 18	$10\frac{1}{2}$ $10\frac{1}{2}$	4	43 43				
PBEG-200-TT PBEG-500	$\substack{9.50\\12.50}$	B	150-200 300-500	$\frac{18}{20\frac{3}{4}}$	14 14	4	50				
PBEG-500-Silvo	12.90	C	300-500	2034	14	4	50 50				
PBEG-500-TT	13.25	C	300-500	$20\frac{3}{4}$	14	4	90				

With PR-1 Medium Socket†§	With PR-4 Mogul Socket†§	Conduit Mounting Type Standard Glassteel Diffuser									
			F. "		Dimensions in Inches		C+d	Wt. Lbs.,			
		List Price	Delivery Code*	Lamp Watts	Diam.	Depth‡	Std. Pkg.	Std. Pkg.			
Catalog Number	— Catalog Number—				1.0	440 (		40			
PREG-200		\$ 9.00	A	150-200	18	113/4	4	43			
PREG-200-Silvo		9.20	C	150-200	18	1134	4	43			
PREG-200-TT		9.50	C	150-200	18	113/4	4	43			
	PREG-500	12.50	A	300-500	203/4	131/4	4	62			
	PREG-500-Silve	12.90	C	300-500	203/4	131/4	4	62			
	PREG-500-Shvo	13.25	Č	300-500	2034	131/4	4	62			
			B	750-1000	24 1/2	161/2	2	50			
	PREG-1000	18.50	D				5	50			
	PREG-1000-TT	20.25	C	750-1000	$24\frac{1}{2}$	$16\frac{1}{2}$	2	90			

With Outlet Box Top§	With Pendant Top§		Disconnecting Type Standard Glassteel Diffuser††						
					Dimensions in Inches		Std.	Wt. Lbs.,	
	<b>45</b>	List Price	Delivery Code*	Lamp Watts	Diam.	Depth‡	Pkg.	Std. Pkg.	
—Catalog Number—	—Catalog Number—	2 0 00	- C	150 000	10	193/	1	45	
OXEG-200	PXEG-200	\$ 9.30	C	150-200	18	133/4	4		
OXEG-200-Silvo	PXEG-200-Silvo	9.50	C	150-200	18	133/4	4	45	
OXEG-200-TT	PXEG-200-TT	9.80	C	150-200	18	133/4	4	45	
OXEG-500	PXEG-500	12.90	C	300-500	$20\frac{3}{4}$	151/2	4	66	
OXEG-500-Silvo	PXEG-500-Silvo	13.30	C	300-500	$20\frac{3}{4}$	$15\frac{1}{2}$	4	66	
OXEG-500-TT	PXEG-500-TT	13.65	C	300-500	203/4	$15\frac{1}{2}$	4	66	
OXEG-1000	PXEG-1000	18.90	C	750-1000	$24\frac{1}{2}$	183/4	2	55	
OXEG-1000-TT	PXEG-1000-TT	20.65	C	750-1000	$24\frac{1}{2}$	1834	2	55	

Finish: White porcelain enamel inside and outside.

'Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

\$\frac{1}{2}\$ The depths given are for Glassteel Diffusers equipped with pendant holders. When equipped with outlet box holders the overall depth is approximately 1 inch less.

\$\frac{1}{2}\$ Tapped standard for \$\frac{1}{2}\$-inch conduit but will be supplied tapped for \$\frac{3}{4}\$-inch conduit on request at no extra charge. For complete listing of sockets, see page 21.

\$\frac{1}{2}\$ San be supplied with shock-absorbing socket on request at \$0.10 list each additional. Add suffix letters "SA" to catalog number when desired.

number when desired.

††Reflectors supplied less the top part of disconnecting fitting at \$0.80 list deducted from complete unit price. Specify as XEG-200, etc.

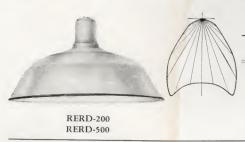
Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE REFLECTORS FOR THE SILVERED BOWL MAZDA LAMP

Designed exclusively for use with the silvered bowl lamp, this reflector with its matte white reflecting surface thoroughly diffuses the light and eliminates all specular reflection. The lamp filament is not visible from any angle, and the illumination provided has a

softness and uniformity approaching that of totally indirect lighting. This type of reflector is especially recommended for use in inspection operations, fine assembly work, and for work on highly polished surfaces.



#### REFLECTORS ONLY

RERD-200	\$4.05	RERD-500	\$6.00
Lamp Watts	200	Lamp Watts	300-500
Delivery Code*	A	Delivery Code*	A
Diameter, Inches	18	Diameter, Inches	201/9
Depth, Inches	10	Depth, Inches	103/4
Standard Package	5	Standard Package	2
Wt. Lbs., Std. Pkg.	31	Wt. Lbs., Std. Pkg.	22

#### REFLECTORS COMPLETE WITH SOCKETS SOLID TOP TYPE

SOCKETS§	Catalog Number	List Price	Catalog Number	List Price
PENDANT TYPE†				
PR-1 Standard Medium	PRERD-200	\$ 5.10		
PR-2 Shock-absorbing Medium	PRERD-200-SA	5.20		
PR-3 Pull-chain Medium	PRERD-200-PC	5.90		
PR-4 Standard Mogul			PRERD-500	\$ 7.50
PR-5 Shock-absorbing Mogul			PRERD-500-SA	7.60
OUTLET BOX TYPE				
OR-1 Standard Medium	ORERD-200	\$ 5.10		
OR-2 Shock-absorbing Medium	ORERD-200-SA	5.20		
OR-3 Pull-chain Medium	ORERD-200-PC	5.90		
OR-4 Standard Mogul			ORERD-500	\$ 7.50
OR-5 Shock-absorbing Mogul			ORERD-500-SA	7.60

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY) \$

	PENDANT TYPE				
PX-1	Standard Medium	PXERD-200	\$ 5.40		
PX-2	Shock-absorbing Medium	PXERD-200-SA	5.50		
PX-3	Pull-chain Medium	PXERD-200-PC	6.20		
PX-4	Standard Mogul			PXERD-500	\$ 7.90
PX-5	Shock-absorbing Mogul			PXERD-500-SA	8.00
	OUTLET BOX TYPE	The state of the		,	
OX-1	Standard Medium	OXERD-200	\$ 5.40		
)X-2	Shock-absorbing Medium	OXERD-200-SA	5.50		
0X-3	Pull-chain Medium	OXERD-200-PC	6.20		
OX-4	Standard Mogul			OXERD-500	\$ 7.90
OX-5	Shock-absorbing Mogul			OXERD-500-SA	8.00

Finish: White porcelain enamel outside, with white matte reflecting surface.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

† Tapped for ½" conduit, but will be supplied tapped for ¾" conduit on request at no extra charge.

§ For complete listing sockets only, see page 21. ‡ For listing disconnecting socket assemblies, see page 27.

# IVANHOE REFLECTORS FOR THE SILVERED BOWL MAZDA LAMP

21/4" B-HEEL SHADE HOLDER TYPE



BERD-200

With this type of reflector it is possible to complete all wiring before hanging the reflector. The heel in the reflector neck makes it possible to use several different types of separable holders, shown below, as well as the Ivanhoe Snap-Lock holders for attaching directly to the socket. B-Heel reflector only also can be attached to 2½" Uno-shade holder.



Typical Assembly

#### REFLECTORS ONLY

Cat. No.	List Price	D. 11	*	Dimen.,	Inches	F+2	Wt. Lbs.,
		Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Std. Pkg
BERD - 200	\$3.85	В	200	18	71/4	5	28

#### HOLDERS AND SOCKETS ONLY



Outlet Box Type for 4" Boxes

Steel, green Duco finish. Has medium base porcelain receptacle H

Cat.	List	Delivery	Std.	Wt. Lbs.
No.	Price	Code*	Pkg.	Std. Pkg.
OB-10	\$1.25	A	10	20



†Pendant Type for 1/2" Conduit

	1145	medium	Dasc	por	Clain	SOUNCE
	Cat.	List	Del	ivery	Std.	Wt. Lbs
٠.	No.	Pric	e Co	ode*	Pkg.	Std. Pkg
	PB-1	2 \$1.2	0	A	10	10



†Pendant Type for 1/2" Conduit

Cast aluminum — natural finish. socket Has medium base porcelain socket

	PB-16	\$1.95	A	10	15
S.	Cat. No.	List Price	Delivery Code*	Std. Pkg.	Wt. Lbs. Std. Pkg.

# REFLECTORS COMPLETE WITH SOCKETS AND HOLDERS AS ABOVE

Catalog Number	List Price		Wt. Lbs. Std. Pkg.		List Price		Wt. Lbs. Std. Pkg.		List Price	Std. Pkg.	Wt. Lbs. Std. Pkg.
OBERD-200	\$5.10	5	38	PBERD-200-12	\$5.05	5	33	PBERD-200-16	\$5.80	5	36

## IVANHOE SNAP-LOCK HOLDERS ONLY



TYPE C HOLDER For Porcelain Sockets

Cat.	List	Delivery	Std.	Wt. Lbs.
No.	Price	Code*	Pkg.	Std. Pkg.
C	\$0.20	A	10	1



TYPE D HOLDER For Brass Shell Sockets

List	Delivery	Std.	Wt. Lbs.
Price	Code*	Pkg.	Std. Pkg.
\$0.20	A	10	1



TYPE S HOLDER For Heavy Duty

Cat.

I III Cat	icu Diicii	Dock	CUD
List	Delivery	Std.	Wt. Lbs.
Price	Code*	Pkg.	Std. Pkg.
\$0.20	A	10	1

## REFLECTORS COMPLETE WITH SNAP-LOCK HOLDERS AS ABOVE

Catalog Number	List Price	Std. Pkg.	Wt. Lbs. Std. Pkg.	Catalog Number	List Price		Wt. Lbs. Std. Pkg.		List Price		Wt. Lbs. Std. Pkg.
CBERD-200	\$4.05	5	28 1/2	DBERD-200	\$4.05	5	28 ½	SBERD-200	\$4.05	5	28 1/2

Cat.

No. D

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. †PB-16 holder will be tapped for ¾" conduit on request at no extra charge. PB-12 and PB-16 holders can be supplied with shock-absorbing socket at \$0.10 each list additional.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE RLM SILVERED BOWL DIFFUSER

FOR USE WITH 300- AND 500-WATT SILVERED BOWL MAZDA LAMPS





Built to RLM Standards specifications, the new Ivanhoe Diffuser is a deep-dome type reflector which takes full advantage of the desirable lighting characteristics made possible by the Silvered Bowl Mazda Lamp — higher levels of illumination without objectionable glare.

Candlepower distribution that will provide uniform illumination when the spacing does not exceed the mounting height, is the basis of its design. It provides a direct lighting unit in which both direct and reflected glare are reduced to a minimum, and shadows are softened to a degree hardly equalled by any other type of direct lighting unit.

General lighting of highest illuminating quality is provided, making this unit especially suitable for inspection work and for any task where high diffusion, uniformity, and freedom from direct glare are essential.

Angles of cut-off are definitely specified in order to provide adequate protection from direct and reflected glare. The overall efficiency must meet a fixed high standard of 63% minimum with the Silvered Bowl Lamp. To meet this high efficiency, both the porcelain enamel and aluminum reflection surfaces must maintain a high reflection efficiency. The candlepower distribution is definitely specified to provide a suitably broad distribution adequate for general lighting.

The reflecting surface of the 22 gauge special enameling steel reflector is finished with three coats of white porcelain enamel — the outside with two coats of white porcelain enamel — each coat separately fired. An Alzak finished aluminum insert with semi-specular surface is fitted in the inside top of the reflector which directs the light downward and outward providing maximum lighting efficiency.



Conduit Mounting Type

One of the advantages of the Conduit Mounting Type Diffuser is that it can be pushed up on the conduit making the socket easily accessible for wiring. It is weatherproof and comes complete with socket ready for wiring.



Disconnecting Type

The illustration above shows how the entire lighting unit, including the lamp, can be removed without disturbing the wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete assembly.

# IVANHOE RLM SILVERED BOWL DIFFUSER

FOR USE WITH 300- AND 500-WATT SILVERED BOWL MAZDA LAMPS

The RLM Silvered Bowl Diffuser is supplied in both the Solid Top Type and the Disconnecting Type.

The Disconnecting Type holders allow for quick and easy removal of the entire lighting unit, including the lamp, without disturbing wiring connections, and are particularly desirable for those locations where there is an excessive amount of dirt present and frequent cleaning is required. OR or OX type is for 31/4- and 4-inch outlet boxes; PR or PX type is for ½-inch conduit.



READ-500

#### REFLECTORS ONLY

				Dimensions, Inches			TTT. T.1
Catalog Number	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Standard Package	Std.Pkg.
READ-500	\$10.00	В	300-500	20	$11\frac{1}{2}$	4	36

#### REFLECTORS COMPLETE WITH SOCKETS

SOLID TOP TYPE

					Dimension	s, Inches		****
	SOCKETS§	Catalog Number	List Price	Lamp Watts	Diameter	Depth	Standard Package	Wt., Lbs., Std. Pkg.
PR-4 PR-5	PENDANT TYPE† Standard Mogul Shock-absorbing Mogul	PREAD-500 PREAD-500-SA	\$11.50 11.60	300-500 300-500	20 20	11½ 11½	4	42
OR-4 OR-5	OUTLET BOX TYPE Standard Mogul Shock-absorbing Mogul	OREAD-500 OREAD-500-SA	\$11.50 11.60	300-500 300-500	20 20	11½ 11½	4 4	42 42

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY)!

PX-4 PX-5	PENDANT TYPE Standard Mogul Shock-absorbing Mogul	PXEAD-500 PXEAD-500-SA	\$11.90 12.00	300-500 300-500	20 20	15 15	4	45 45
OX-4 OX-5	OUTLET BOX TYPE Standard Mogul Shock-absorbing Mogul	OXEAD-500 OXEAD-500-SA	\$11.90 12.00	300-500 300-500	20 20	15 15	4	45 45

Finish: White porcelain enamel inside and outside.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. † Tapped standard for ½" conduit, but will be supplied tapped for ¾" conduit on request at no extra charge.

§ For complete listing sockets only, see page 21. ‡ For complete listing disconnecting socket assemblies, see page 27.

(Listed as Vaporproof by Underwriters' Laboratories)

F.O.B. Meriden, Conn.

## IVANHOE VAPORPROOF UNITS



In many locations such as flour mills, grain elevators, starch mills, coal mines, coal grinding rooms, spray rooms, oil fields, refineries, there is the vital problem of protection against fires and explosions from inflammable dusts and vapors and protection of



Typical Installation of Ivanhoe Vaporproof Units in a Commercial Automobile Paint Shop

electrical equipment from acid fumes and vapors. Ivanhoe vaporproof units furnish adequate protection against the hazards of such locations.

The holders are made of aluminum and between each part of the unit, a gasket is used making the unit dust- and vaporproof. The glass globe threads into an aluminum holder and seats against an asbestos gasket sealing the lamp and electrical connections within the globe and holder.

The reflectors are of deep-drawn steel, porcelain enameled with the Ivanhoe acid-resisting enamel—green outside—white inside. Each reflector is given a ground coat and two coats of enamel to assure maximum reflection efficiency.

Ivanhoe vaporproof units are available in the Deep Dome, Angle, Flat Cone, and Holder and Globe Only Types, and are for use with 40 to 100 and 150 to 500-watt medium and mogul base Mazda Lamps.

Finish: Reflectors are acid-resisting porcelain enamel—green outside; white inside. All aluminum parts are natural aluminum.

# IVANHOE VAPORPROOF UNITS

HOLDERS WITH GLOBES ONLY

PENDANT TYPE

OUTLET BOX COVER TYPE











VO-60

All pendant type holders used on complete units as well as Holder and Globe Only Combinations, are tapped for ½-inch conduit but can be supplied tapped for 3/4-inch conduit

upon request, at no extra charge. They can be furnished with shock-absorbing sockets at 10c list each additional. Clear crystal globe furnished as standard.

			V 11	Dimen, Inches		Std.	Wt. Lbs	
Cat. No.	List Price	Recommended Lamp Watts	Delivery Code*	Diam.	Depth	Pkg.	Std. Pkg.	
VR-60 VR-100 VO-60 VO-100	\$2.10 2.65 2.10 2.65	40-50-60 75-100 40-50-60 75-100	B B B	4 5 4 <sup>1</sup> / <sub>4</sub> 5	8 ½ 9 6 ¾ 7 ¾	10 10 10 10	25 27 25 27	



#### Complete Units-Reflector, Holder and Globe ANGLE TYPE

Pendant Type	Delissons	List	Recom- mended	Dime	n., In.	Std.	Wt., Lbs
Cat. No.	Delivery Code*	Price	Lamp Watts	Diam.	Depth	Pkg.	Std.Pkg.
VREL-100	C	\$6.50	75-100	10	11	8	40

#### DEEP DOME TYPE

Pendant Type	D. II.	List	Recom-	Dime	n., In.	Std.	Wt., Lbs.,
Cat. No.	Delivery Code*	Price	mended Lamp Watts	Diam.	Depth	Pkg.	Std.Pkg.
VREDD-100	C	\$6.00	75-100	12	81/2	10	31





VREDD-100

				Dimensions in Inches			G. 1	701 717
Cat. No.	Price Each	Description	Delivery Code*	Diam.	Depth	Fitter	Std. Pkg.	Pkg. Wt., Lbs.
GV- 60	\$0.75	Clear Crystal Std.	В	33/8	6	3 5/6	10	15
GV- 60 CRI	.90	Crystal Roughed Inside	C	33/8	6	$\frac{35}{16}$	10	15
GV- 60 CHR	1.75		D	33/8	6	3 5/16	10	15
GV- 60 Opal	1.25	Opal Glass — White	D	33/8	6	3 5/16	10	15

#### For 75-100-Watt Lamps

GV-100	\$1.00	Clear Crystal Std.	В	5	63/4	3 5/16	10	22
GV-100 CRI	1.25	Crystal Roughed Inside	C	5	63/4	3 5/16	10	22
GV-100 CHR	2.00	Clear Heat Resisting	D	5	63/4	3 5/16	10	22
GV-100 Opal	1.50	Opal Glass — White	D	5	634	3 5/16	10	22

Clear Crystal Globes are supplied standard on all Vapor Proof units. When other types of Glass are required, specify on order. Vapor Proof unit glassware is shipped from factories at Meriden, Conn., and Monaca, Pa.

Finish: Reflectors, acid-resisting porcelain enamel green outside, white inside; VR holders, cast aluminum, natural finish; VO holders, green duco.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE HEAVY-DUTY VAPORPROOF UNITS

Any of the units below can be supplied with shock-absorbing sockets at 10c list each additional. When desired, add suffix letters "SA" to catalog number.

Holders are tapped standard for ½-inch conduit but can be supplied tapped for ¾-inch conduit on request at no extra charge.



## Holders with Globes Only

				Dime	en., In.	Std.	Wt. Lbs.,
Cat. No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Pkg.	Std. Pkg
VR-200	\$4.20	В	150-200	51/4	111/4	10	40
VR-500	5.60	C	300-500	81/4	143/8	5	45

# Complete Units—Reflectors, Holders and Globes DEEP DOME TYPE

		- U		Dime	n., In.	Gt 3	7774 T.L.
Cat. No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
VREDD-150 VREDD-200 VREDD-500	\$6.75 8.25 10.75	B B C	150 200 300-500	14 16 <sup>1</sup> ⁄ <sub>4</sub> 18	9 9 3/4 13 3/8	10 9 3	50 55 35



DEEP DOME TYPE



#### ANGLE TYPE

	T	D.U.	*	Dime	n., In.	04.3	TT74 T 1
Cat. No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
VREL-150 VREL-500	\$7.25 10.00	C D	150-300 300-500	$12\frac{1}{2}$ $16\frac{1}{4}$	145/ <sub>8</sub> 18	9 3	55 45

#### FLAT CONE TYPE

0.4	T	T 11	7	Dime	n., In.	G. I	TITLE T. I
Cat. No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
VREC-150	\$6.75	C	150-200	16	111/4	9	45



FLAT CONE TYPE

## Globes Only

	List		Delivery	Din	nensions in In	ches	G. 1	7774 7 1
Cat. No. Price		Description	Code*	Diam.	Depth	Fitter	Std. Pkg.	Wt. Lbs., Std. Pkg.
		For 150-200 Watt Lamps						
GV-150	\$1.20	Clear Crystal — Std.	В	$5\frac{1}{4}$	7	41/8	10	20
GV-150 CRI	1.50	Crystal Roughed Inside	C	$5\frac{1}{4}$	7	41/8	10	20
<b>GV-150 CHR</b>	2.20	Clear Heat Resisting	D	51/4	7	41/8	10	20
GV-150 Opal	1.70	Opal Glass — White	D	51/4	7	41/8	10	20
•		For 300-500 Watt Lamps		/ 4		-/8		
GV-500	1.60	Clear Crystal — Std.	C	81/4	85/8	51/2	8	20
GV-500 CRI	2.20	Crystal Roughed Inside	D	81/4	85/8	51/2	8	20
GV-500 CHR	3.10	Clear Heat Resisting	C	81/4	85/8	$5\frac{1}{2}$	8	20

Clear Crystal Globes are supplied standard on all Vapor Proof units. When other types of glass are required specify on order. Vapor Proof unit glassware is shipped from factories at Meriden, Conn., and Monaca, Pa.

Finish: Reflectors, acid-resisting porcelain enamel green outside, white porcelain enamel inside; VR holders cast aluminum, natural finish.

<sup>\*</sup>Time required to fill orders: A=48 hours: B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE

# IVANHOE AISLE-LIGHTING REFLECTORS

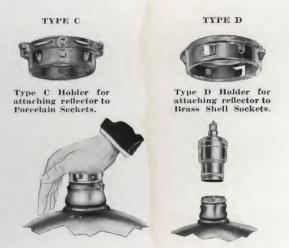


To provide uniform distribution of light on the vertical surfaces of library bookstacks and the interior of storage bins, baggage racks, etc., a special type of reflector has been developed. The metal shields attached to the Ivanhoe Aisle-Lighting reflector protect the eye from direct glare of the lamp. The reflectors are finished in bronze outside, with non-tarnishing Alzak aluminum finish inside.

These reflectors are supplied with the Shade Holder B-Heel type neck and can be equipped with rigid Snap-Lock Holders for attaching directly to the socket.

B-Heel reflector only can be attached to 2¼" Uno-shade holder.





No tools are required to attach the Snap-Lock holders to B-Heel type reflectors. The rivet heads of the holder are lined up with corresponding slots in the neck of the reflector and the holder is snapped into place.

		$2\frac{1}{4}$ in.	B-HEEL R	EFLECTO	R			COL	MPLETE W	ITH HOLDER	
		_	D 11	Dime	n., In.	Ct 3	1774 I b-	Туре С	;	Туре D	
Cat. No.	List Price	Lamp Watts	Delivery Code*	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.	Cat. No.	List Price	Cat. No.	List Price
BADA-60	\$2.00	60	В	8	4 7/8	10	12	CBADA-60	\$2.20	DBADA-60	\$2.20

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

## IVANHOE SUP-LITE UNIT



The Ivanhoe Sup-Lite is a radically different type of unit designed, as its name implies, to supplement existing lighting equipment in order to build up intensity over the working area. This unit supplies high intensities of light at small cost, and with none of the disadvantages found in the ordinary type of localized lighting units. It is ideal for those places where accuracy and speed are of utmost importance.

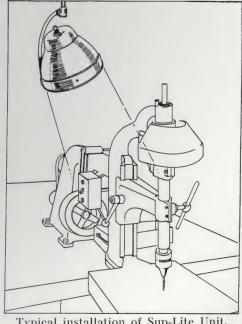


## Open View of Sup-Lite Unit

The illustration above shows the construction of the Ivanhoe Sup-Lite Unit. The black louvre, ring assembly, shields the eye from view of the light source. Glass bottom plate opens conveniently and easily for relamping or cleaning. Finish: outside. battleship gray; inside, polished Alzak aluminum.

Some industrial locations require an intensity of from 50 to 100 or more footcandles and, while the general illumination provided may be adequate for most operations, a higher intensity of light must be provided over a small area for fine detailed work. The Ivanhoe Sup-Lite unit provides sufficient intensity to meet the need for a highly concentrated beam of light for these more difficult seeing requirements and, in addition, is adjustable to practically any angle so that it does not have to be mounted in a position where objectionable shadows are cast on the work. It has a special black louvre or ring assembly in the bottom of the reflector which cuts off view of the light source, eliminating direct glare.

It is an economical lighting unit, too, for one 150-watt lamp supplies as much as 173 footcandles of light when mounted 4 feet from the working plane. The unit also is totally enclosed and dustproof. There is no depreciation of initial light output. With the Sup-Lite Unit maintenance costs are kept at a minimum. The inside reflector is made of polished Alzak aluminum.



Typical installation of Sup-Lite Unit.

0-4-1		TO P		Dimension	s in Inches	G. I	3374 T 1
Catalog No.	1 ist Price	Delivery Code*	Lamp Watts	Diam.	Depth	$\frac{\text{Std.}}{\text{P}^{l_r}\mathbf{g.}}$	Wt. Lbs., Std. Pkg.
PSAS-150	\$12.00	В	150	11½	12	1	8

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

## IVANHOE SPECIAL ANGLE REFLECTORS

FOR MEDIUM AND MOGUL BASE LAMPS

These reflectors are particularly suited to the lighting of all interiors where overhead lighting would be impractical because of interference caused by overhead cranes, beams, etc. They are desirable for lighting loading platforms, storage yards, bowling alleys, rug racks, individual lighting of machines, automobile wash racks, and similar places where a low angle of cutoff is desired and a very broad lateral distribution is essential. They can also be used for lighting of small outdoor sport areas, for filling stations, and are especially adapted to the lighting of poster boards and other out-

These reflectors are sturdy and easy to maintain. The sockets are easy to wire. When exposed to the

weather, castings and locknuts will not freeze nor corrode because they are made of dissimilar metals.

These reflectors are mounted in a pendant position, no pipe bending is necessary and proper dis-tribution is obtained with an absolute minimum loss of light in plane parallel to display surface and a sharp cutoff is obtained at top of board.

They are: 1—Efficient. 2—Light in weight. Of the correct size for a particular lamp. 4-Of proper design to give good uniform illumination. 5—Simple and substantial in construction. 6—Weatherproof. The socket and electrical connections are well protected. The bead or lower edge is turned in to prevent collection of water. 7— Easy to clean.



#### REFLECTORS ONLY

REAL-100 \$2.45	REAL-150 \$3.15	REAL-500 \$7.20	REAL-1000 \$8.20
Lamp Watts 75-100	Lamp Watts 150-200	Lamp Watts 300-500	Lamp Watts 750-1500
Delivery Code* C	Delivery Code* C	Delivery Code* C	Delivery Code* C
Diameter, Inches 8	Diameter, Inches 9¾	Diameter, Inches 12	Diameter, Inches 153/8
Depth, Inches 95/8	Depth, Inches 13½	Depth, Inches 141/4	Depth, Inches 20½
Standard Package 10	Standard Package 10	Standard Package 5	Standard Package 5
Wt., Lbs., Std. Pkg. 17	Wt., Lbs., Std. Pkg. 27	Wt., Lbs., Std. Pkg. 17	Wt., Lbs., Std. Pkg. 33

## REFLECTORS COMPLETE WITH SOCKETS

SOLID TOP TYPE

SOCKETS §	Catalog Number	List Price	Catalog Number	List Price	Catalog Number	List Price		List
PENDANT TYPE† PR-1 Std. Med. PR-2 S. A. Med. PR-4 Std. Mog. PR-5 S. A. Mog.		3.60	PREAL-150 PREAL-150-SA		PREAL-500	\$8.70	PREAL-1000 \$9 PREAL-1000-SA 9	70
OUTLET BOX TYPE OR-1 Std. Med. OR-2 S. A. Med. OR-4 Std Mog. OR-5 S.A Mog.		3.60	OREAL-150 OREAL-150-SA		OREAL-500	\$8.70	OREAL-1000 \$9 OREAL-1000-SA 9	70

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY) !

PENDANT TYPE PX-1 Std. Med. PX-2 S. A. Med. PX-4 Std. Mog. PX-5 S. A. Mog. A	PXEAL-100-SA 3.90	PXEAL-150-SA 4.60	PXEAL-500 \$9.10 PXEAL-500-SA 9.20	PXEAL-1000 \$10.10
OX-1 Std. Med. OX-2 S. A. Med. OX-4 Std. Mog. OX-5 S. A. Mog.	OXEAL-100-SA 3.90	OXEAL-150-SA 4.60	OXEAL-500 \$9.10 OXEAL-500-SA 9.20	OXEAL-1000 \$10.10

Finish: Green porcelain enamel outside—white porcelain enamel inside. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. †Tapped standard for ½" conduit, but can be tapped for ¾" conduit on request at no extra charge. § For complete listing sockets only, see page 21.

‡For complete listing disconnecting socket assemblies, see page 27.

Shock-absorbing sockets for locations where excessive vibration may damage lamp filament.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

# IVANHOE SPECIAL SERVICE REFLECTORS

For Medium Base Lamps—SHALLOW DOME



Ivanhoe offers a line of porcelain enameled shallow dome reflectors to accommodate lamps in sizes from 40 to 200 watts. These reflectors are more durable and are easier to clean than paint enameled reflectors. They are supplied in green porcelain enamel out-



side and white porcelain enamel inside with the standard 2½-inch B-heel neck. Separable holders and Ivanhoe Snap-Lock holders can be used with this type of reflector. B-Heel reflector only can be attached to 2½" Unoshade holder.

			Υ	Dimension	s in Inches		
Catalog No.	List Price	Delivery Code*	Lamp Watts	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
BUD-40	\$0.80	A	40-50-60	10 1/4	3	10	12
BUD-60	.95	A	60-75-100	$12\frac{1}{4}$	31/4	10	18
BUD-100	1.20	A	75-100-150	14	41/8	10	19
BUD-150	1.50	A	150-200	$15\frac{1}{4}$	4 7/8	10	30

# IVANHOE PROTECTIVE COVERS Hinged Type



Ivanhoe hinged type covers provide an inexpensive yet effective way to protect the inner reflecting surfaces of reflectors, sockets, and lamps. In industrial locations where there is an excessive amount of dirt present, or in outside locations where it is essential to protect the lamp from the weather, maintenance costs can be reduced to a minimum, by using Ivanhoe protective covers. These covers can be attached quickly and easily to RLM dome, bowl, angle, or high mounting re-



flectors by slipping the clamping ring over the bead of the reflector. An asbestos gasket seals the assembly. Clear glass convex covers are furnished as standard.

## Complete Covers

C-4-1	T :4	D. 12	TO D. C.	Dimension	s in Inches	G. 1	XX7. X 1
Catalog Number	List Price	Delivery Code*	Fits Reflector Diameter, In.	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
KS-10	\$2.50	C	10	101/4	1	5	10
KS-12	2.70	C	12	121/4	11/4	5	15
KS-14	3.10	C	14	14 1/4	11/2	5	20
KS-16	3.60	C	161/4	161/2	13/4	5	30
KS-18	4.10	C	18	181/4	2	5	40
KS-18 Etched	5.10	C	18	181/4	2	5	40

## Glass Plates Only for Replacement

Catalog	List	Delivery		Dimensions in Inches		Gr J	3174 T 1
Number	Price	Code*	Description	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
G-222 Clear	\$1.00	C	KS-10 Glass	9 7/8	1	5	9
G-124 Clear	1.00	C	KS-12 Glass	11 7/8	11/4	5	12
G-125 Clear	1.25	C	KS-14 Glass	$13\frac{7}{8}$	1 1/2	5	15
G-126 Clear	1.50	C	KS-16 Glass	16	13/4	5	20
G-127 Clear	1.75	C	KS-18 Glass	173/4	2	5	30
G-127 Etched	2.75	C	KS-18 Glass	$17\frac{3}{4}$	2	5	30

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# Sec. 1A—Page 53

F.O.B. Meriden, Conn.

# IVANHOE SPECIAL SERVICE REFLECTORS

#### AM-634



AM-634

Used extensively for sewing machine lighting with 10-15- and 25-watt Mazda lamps. It is suitable for all other kinds of service re-quiring a small reflector. It is provided with a clip-ring holder for attaching to brass shell sockets. Standard green Duco outside with white Duco inside.

#### AM-882



AM-882

This reflector for attachment to brass shell sockets complies with the specifications of the U.S. Post Office Department for mail case, bag rack and other applicarooms. Green porcelain enameled outside, white porcelain enameled inside. Furnished with simple holder which permits reflector to swivel.

#### AM-888



AM-888

This angle reflector also complies with specifications of the Post Office Department and is green porcelain enamel outside; white inside. Furnished with holder which permits the reflector to swivel. It is for attachment to brass shell sockets.

#### SA-60



SA-60

A horizontal mounting, aluminum reflector for concentrated localized lighting. The SA-60 is equipped with a brass screw collar fin-nished to match the alumi-num reflector. With the screw collar the unit can be attached to any standard threaded brass shell socket. Finish of reflector is diffuse Alzak with a cadmium-plated steel extension.

#### DP-55

Horizontal symmetrical reflector for localized lighting. Fitted with a threaded collar which fits the standard threaded brass shell sockets. Green Duco finish outside; spray aluminum finish inside.



DP-55

#### DP-25

Pear-shaped, half shade is particularly suitable for use on brackets for localized lighting. Fitted with clipring holder for brass shell sockets only. Finish: green Duco outside, white Duco inside.



DP-25

#### DP-58

Pendant concentrating reflector for localized lighting. Fitted with clip-ring holder for brass shell sockets. Finish: green Duco outside; white Duco inside.



DP-58

#### DP-78

The No. DP-78 is a pendant concentrating reflector for 50- and 60-watt lamps and recommended for localized lighting. It is fitted with a clip-ring holder for use with brass shell sockets. Finish: green Duco outside; white Duco inside.



**DP-78** 

Catalog List		Delivery			Dimensions in Inches			
Number	Price	Code*	Lamp Watts	Diam.	Depth	Fitter	Std. Pkg.	Wt. Lbs., Std. Pkg.
AM-634	\$0.60	В	15-25-40	31/4	4	D	10	51/2
AM-882	1.35	C	25-60	7	5	D.	10	$9\frac{1}{2}$
AM-888	1.40	C	25-60	7	6	D	10	10
SA-60	.80	В	40-60-75	7	31/2	D	10	10
DP-55	. 65	A	50-60	63/4	35%	D	10	5
DP-25	.50	A	25-40-50	534	23%	D	10	114
DP-58	.50	В	25-40	7	4	D	10	71/2
<b>DP-78</b>	.65	В	50-60	8	5	D	10	9 72

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.



F.O.B. Meriden, Conn.

# IVANHOE WIRE GUARDS

#### BASKET TYPE GUARDS





Typical Installation

This type of guard encloses the entire unit and fastens to the ceiling with two wood screws. The hinged bottom section permits cleaning and relamping. It is especially adapted for use with the Glassteel Diffuser in gymnasiums, indoor courts, etc.

CLAMP-ON TYPE GUARD

Catalan	T :	Delivery	Ett. D. C.	Dimensions	Standard	
Number		Code*	Fits Reflector Diam., Inches	Diameter	Depth	Package
WGB-10	\$4.50	D	10	14	10	10
WGB-12	4.75	D	12	16	12	10
WGB-14	5.00	D	14	18	14	10
WGB-16	6.00	D	161/4	20	16	10
WGB-18	7.00	D	18	22	18	10
WGB-20	8.00	D	203/4	24	18	10
WGB-24	10.00	D	24	28	18	10

#### TRIANGLE CLAMPING GUARD



This guard is for use on the Glassteel Diffuser only. It clamps to the outer rim of the reflector.

This guard clamps on to the outer rim of the reflector and will fit all standard type reflectors in the sizes listed below. It is sturdily constructed and will withstand hard knocks and jars. The heavy-gauge wire will resist corrosion.



Typical Installation

#### TRIANGLE CLAMPING GUARD

Catalog List		Deliner P.d.		Dimensions	2:- 1- 1	
Number		Fits Reflector Diam., Inches	Diameter	Depth	Standard Package	
WGT-18 WGT-20 WGT-24	\$1.20 1.20 1.20	D D D	18 20 <sup>3</sup> ⁄ <sub>4</sub> 24			10 10 10

#### CLAMP-ON TYPE GUARD

WGC-10	\$1.20	D	10	101/2	21/2	10
WGC-12	1.50	D	12	121/2	3'2	10
WGC-14	1.80	D	14	141/2	31/6	10
WGC-16	2.10	D	161/4	1634	41/2	10
WGC-18	2.50	D	18	181/2	$5\frac{1}{2}$	10
WGC-20	3.00	D	203/4	203/4	6	10
WGC-24	4.75	D	24	24	7	10

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

# IVANHOE SPECIAL SERVICE EQUIPMENT

## Outlet Box Cover Aligner-AC-941



ed between two plates, moves freely and allows the fixture to hang plumb when boxes are at an angle up to 45 degrees. The use of this device also improves the efficiency of the installation and protects the reflector or

The cast-iron ball, suspend-

fittings from jars or bumps from poles, ladders, or similar objects. Designed for use on standard 34-or 4-inch outlet boxes. The ball is tapped for ½-inch conduit and has two slots to permit it to be held with a wrench while conduit or pipe is being screwed in place. Standard finish, galvanized iron.

# Porcelain Insulating Bushing



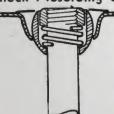
AC-901

This porcelain insulating bushing is suitable for all Ivanhoe Separable Holders and Conduit Mounting Type Reflectors which are tapped for ½-inch pipe. It is made of high-quality porcelain. Clean-cut threads; inside top edge beveled. The bushing insulates the holder and prevents fraying and wearing of insulation on the wire.

## Industrial Pendant Hanger—ACH-1314

This pendant hanger has %-inch adjustable hickey, threaded lock-ring to permit canopy to be lowered, %-inch brass tubing 18 inches long which terminates with a ½-inch male threaded bushing for attaching reflectors. Finished in Nuvon chrome.

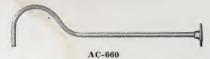
# Shock-Absorbing Outlet Box Cover Aligner AC-1041



AC-1041

This aligner is identical with the AC-941, described above, with the exception that it is of the shock-absorbing type. As illustrated, a heavy spring floats the reflector or fitting, protecting the equipment from shocks or jars.

## Pipe Bracket-AC-660



The AC-660 is a ½-inch galvanized pipe bracket and is supplied complete, bracket only or pole plate only; please specify when ordering.

#### Cord Strain Connector—AC-656

Cord Strain Connector—½-inch pipe size—for use with Conduit Mounting Type Reflectors and separable holders. The nozzle is bored smooth and will not fray or tear the insulation.



AC-656

#### Suspension Fitting—AC-658



Cast aluminum suspension eye fitting of heavy, durable construction equipped with porcelain insulating bushings to prevent the wire from becoming frayed. Threaded for ½-inch fittings. Standard finish, natural aluminum.

## Ivanhoe Disconnecting Fittings

AC-1080 and AC-1082 Ivanhoe disconnecting holders allow for quick and easy removal of entire lighting unit, including lamp, without disturbing wiring connections. Only a slight turn and upward pressure is required to take down or replace a complete reflector assembly. These units carry the Underwriters' approval and may be used with any onepiece solid top reflector equipment. They are rugged and fool-proof. AC-1080 is tapped for ½" iron pipe at both ends. AC-1082 is for mounting on 3¼" or 4" outlet boxes; lower end tapped for ½" conduit.



AC-108

Catalog No.	List Price	Delivery Code*	Description	Std. Pkg.	Wt. Lbs. Std. Pkg
AC-941	\$0.30	A	Outlet Box Cover Aligner	10	7
AC-1041	. 65	A	Shock Absorbing Outlet Cover Box Aligner	10	7
AC-656	.10	A	Cord Strain Connector	50	4
AC-660	.95	В	Pipe Bracket and Plate	10	35
AC-660	. 60	В	Pipe Bracket	10	25
AC-660	. 35	В	Pole Plate	10	10
AC-658	.95	A	Suspension Fitting	20	7
AC-901	.08	A	Porcelain Insulating Bushing	100	15
ACH-1314	1.75	В	Industrial Pendant Hanger	10	20
AC-1080	1.75	В	Outlet Box Disconnecting Device	10	10
AC-1082	1.75	В	Conduit Disconnecting Device	10	10

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

ACH-1314



F.O.B. Meriden, Conn.

# NUMERICAL INDEX

		I	
Catalog No. Page	Catalog No. Page	Catalog No. Page	Catalog No. Page
AC-656 55	CBERD-200 43	GV-150 Opal	OHEG-200 Silvo 41
AC-658 55	D 19	GV-500 48	OHEG-200 TT 41
AC-660 55	DBADA-60 49	GV-500 CHR 48	OHEG-500 41
AC-901 55	DBEB-60 19	GV-500 CRI 48	OHEG-500 Silvo 41
AC-941 55	DBEB-75 19	HED-100 34	OHEG-500 TT 41
AC-1041 55	DBEB-100 19	HED-200 34	OHEG-1000 41
AC-1080 55	DBEB-150 19	HED-500 34	OHEG-1000 TT 41
AC-1082 55	DBED-60 19	HEDD-100 34	OHEGS-200 39
ACH-1314 55	DBED-75 19	HEDD-150 34	OHEGS-200 Silvo 39
AM-634 53	DBED-100 19	HEDD-200 34	OHEGS-500 39
AM-882 53	DBED-150 19	HEDD-500 34	OHEGS-500 Silvo 39
AM-888 53	DBED-200 19	HEDD-1000 34	OR-1 21
BADA-60 49	DBEDD-75 19	KS-10 52	OR-221
BEB-6016, 18	DBEDD-100 19	KS-12 52	OR-3 21
BEB-7516, 18	DBEDD-150 19	KS-14 52	OR-4 21
BEB-10016, 18	DBEDD-200 19	KS-16 52	OR-5
BEB-15016, 18	DBEL-60 19	KS-18 52	OR-7 21
BED-6016, 18	DBEL-75 19	KS-18 Etched 52	OR-8 21
BED-7516, 18	DBEL-100	OB-10 17	ORAF-500 32
BED-10016, 18	DBEL-150	OBEB-60	ORAF-500-SA 32
BED-15016, 18	DBERD-200 43	OBEB-75 17	ORAF-1000 32
BED-20016, 18	DP-25 53	OBEB-100 17	ORAF-1000-SA 32
BEDD-7516, 18	DP-55	OBEB-150 17	ORAF-1500 32
BEDD-10016, 18	DP-58 53	OBED-60 17	ORAF-1500-SA 32
BEDD-15016, 18	DP-78 53	OBED-75 17	ORAS-200 33
BEDD-20016, 18	G-124 Clear 52	OBED-100 17	ORAS-200-PC 33
BEL-60	G-125 Clear 52	OBED-150	ORAS-200-SA
BEL-7516, 18	G-126 Clear 52	OBED-200 17	ORAS-500 33
BEL-10016, 18	G-127 Clear 52	OBEDD-75 17	ORAS-500-SA
BEL-15016, 18	G-127 Etched 52	OBEDD-100 17	ORAS-1000 33
BERD-200 43	G-222 Clear 52	OBEDD-150 17	ORAS-1000-SA 33
BUD-40 52	G2444x10 Genco 39	OBEDD-200 17	OREAD-500 45
BUD-60 52	G2444x12 Genco 39	OBEL-60 17	OREAD-500-SA 45
BUD-100 52	G2444x10 Silvo 39	OBEL-75 17	OREAL-100 51
BUD-150 52	G2444x10 Silvo 39	OBEL-100	OREAL-100-SA 51
C 19	G5784x16 Genco 36, 40	OBEL-150 17	OREAL-150 51
CBADA-60 49	G5784x16 TT36, 40	OBERD-200 43	OREAL-150 51
CBEB-60 19	G5854x10x6 Genco 40	OHED-100-10 35	OREAL-500 51
CBEB-75 19	G5854x10x6 Geneo 40	OHED-100-12 35	OREAL-500-SA 51
CBEB-100	G5854x10x6 TT 40	OHED-200-10 35	OREAL-1000 51
CBEB-150 19	G5854x12 Genco 40	OHED-200-10 35	OREAL-1000 51
CBED-60	G5854x12 Silvo 40	OHED-500-20 35	OREB-75 25
CBED-75 19	G5854x12 TT 40	OHED-500-20 35	OREB-75-SA
CBED-100	GV-60 47	OHEDD-100-10 35	OREB-100 25
CBED-150	GV-60 CHR 47	OHEDD-100-10 35	OREB-100 25
CBED-200	GV-60 CRI 47		OREB-100-FG
CBEDD-75 19			
CBEDD-100	GV-60 Opal 47	OHEDD-150-12 35	OREB-150 25 OREB-150-SA 25
	GV-100 47	OHEDD 200-10 35	
CBEDD-150	GV-100 CHR 47	OHEDD-200-12 35	OREB-200 25
CBEL-60	GV-100 CRI 47	OHEDD-500-20 35	OREB-200-PC 25
	GV-100 Opal 47	OHEDD-500-22 35	OREB-200-SA 25
CBEL-75	GV-150	OHEDD-1000-20 35	OREB-500 25
CBEL-100 19	GV-150 CHR 48	OHEDD-1000-22 35	OREB-500-SA 25
CBEL-150 19	GV-150 CRI 48	OHEG-200 41	OREB-1000 25

#### F. O. B. Meriden, Conn.

# NUMERICAL INDEX - Continued

Catalog No. Page	Catalog No. Page	Catalog No. Page	Catalog No. Page
OREB-1000-SA 25	OREL-500-SA 25	OXEC-75-SA 31	OXEL-75 31
OREC-75 25	OREL-1000 25	OXEC-100 31	OXEL-75-SA 31
OREC-75-SA 25	OREL-1000-SA 25	OXEC-100-PC 31	OXEL-100 31
OREC-100 25	ORERD-200 42	OXEC-100-SA 31	OXEL-100-PC 31
OREC-100-PC 25	ORERD-200-PC 42	OXEC-150 31	OXEL-100-SA 31
OREC-100-SA 25	ORERD-200-SA 42	OXEC-150-PC 31	OXEL-150 31
OREC-150 25	ORERD-500 42	OXEC-150-SA 31	OXEL-150-PC 31
OREC-150-PC 25	ORERD-500-SA 42	OXEC-200 31	OXEL-150-SA 31
OREC-150-SA 25	OX-127	OXEC-200-PC 31	OXEL-200 31
OREC-200 25	OX-2 27	OXEC-200-SA 31	OXEL-200-PC 31
OREC-200-PC 25	OX-327	OXEC-500 31	OXEL-200-SA 31
OREC-200-SA 25	OX-4 27	OXEC-500-SA 31	OXEL-500 31
OREC-500 25	OX-527	OXED-75 31	OXEL-500-SA 31
OREC-500-SA 25	OX-727	OXED-75-SA 31	OXEL-1000 31
ORED-7525	OX-827	OXED-10031	OXEL-1000-SA 31
ORED-75-SA 25	OXAF-500 32	OXED-100-PC 31	OXERD-200 42
ORED-10025	OXAF-500-SA 32	OXED-100-SA 31	OXERD-200-PC 42
ORED-100-PC 25	OXAF-1000 32	OXED-150 31	OXERD-200-SA 42
ORED-100-SA 25	OXAF-1000-Bi 37	OXED-150-PC 31	OXERD-500 42
ORED-150 25	OXAF-1000-SA 32	OXED-150-SA 31	OXERD-500-SA 42
ORED-150-PC 25	OXAF-1500 32	OXED-200 31	PB-12 17
ORED-150-SA 25	OXAF-1500-SA 32	OXED-200-PC 31	PB-16 17
ORED-200 25	OXAS-200 33	OXED-200-SA 31	PBED-60-12 17
ORED-200-PC 25	OXAS-200-PC 33	OXED-500 31	PBED-60-16 17
ORED-200-SA 25	OXAS-200-SA	OXED-500-SA	PBED-75-12 17
ORED-50025	OXAS-500 33	OXEDD-75 31	PBED-75-16
ORED-500-SA 25	OXAS-1000 33	OXEDD-75-SA 31	PBED-100-12 17
OREDD-7525	OXAS-1000-Bi 37	OXEDD-100	PBED-100-16 17
OREDD-75-SA 25	OXAS-1000-SA 33	OXEDD-100-PC 31	PBED-150-12 17
OREDD-100 25	OXEAD-500 45	OXEDD-100-SA 31	PBED-150-16 17
OREDD-100-PC 25	OXEAD-500-SA 45	OXEDD-150 31	PBED-200-12 17
OREDD-100-SA 25	OXEAL-100 51	OXEDD-150-PC 31	PBED-200-16 17
OREDD-150 25	OXEAL-100-SA 51	OXEDD-150-SA 31	PBEDD-75-12 17
OREDD-150-PC 25	OXEAL-150 51	OXEDD-200 31	PBEDD-75-16 17
OREDD-150-SA 25	OXEAL-150-SA 51	OXEDD-200-PC 31	PBEDD-100-12 17
OREDD-200 25	OXEAL-500 51	OXEDD-200-SA 31	PBEDD-100-16 17
OREDD-200-PC 25	OXEAL-500-SA 51	OXEDD-500 31	PBEDD-150-12 17
OREDD-200-SA 25	OXEAL-1000 51	OXEDD-500-SA 31	PBEDD-150-16 17
OREDD-500 25	OXEAL-1000-SA 51	OXEDD-1000 31	PBEDD-200-12 17
OREDD-500-SA 25	OXEB-75 31	OXEDD-1000-Bi 37	PBEDD-200-16 17
OREDD-1000 25	OXEB-75-SA 31	OXEDD-1000-SA 31	PBEG-200 41
OREDD-1000-SA 25	OXEB-100 31	OXEG-200 41	PBEG-200 Silvo 41
OREL-75 25	OXEB-100-PC 31	OXEG-200 Silvo 41	PBEG-200 TT 41
OREL-75-SA 25	OXEB-100-SA 31	OXEG-200 TT 41	PBEG-500 41
OREL-100 25	OXEB-150 31	OXEG-500 41	PBEG-500 Silvo 41
OREL-100-PC 25	OXEB-150-SA 31	OXEG-500 Silvo 41	PBEG-500 TT 41
OREL-100-SA 25	OXEB-200 31	OXEG-500 TT 41	PBEL-60-12 17
OREL-150 25	OXEB-200-PC 31	OXEG-1000 41	PBEL-60-16 17
OREL-150-PC 25	OXEB-200-SA 31	OXEG-1000-Bi 36	PBEL-75-12 17
OREL-150-SA 25	OXEB-500 31	OXEG-1000 TT 41	PBEL-75-16 17
OREL-200 25	OXEB-500-SA 31	OXEGS-200 39	PBEL-100-12 17
OREL-200-PC 25	OXEB-1000 31	OXEGS-200 Silvo 39	PBEL-100-16 17
OREL-200-SA 25	OXEB-1000-SA 31	OXEGS-500 39	PBEL-150-12 17
OREL-500 25	OXEC-75 31	OXEGS-500 Silvo 39	PBEL-150-16 17

F.O.B. Meriden, Conn.

# NUMERICAL INDEX - Continued

	1					
Catalog No. Page	Catalog No.	Page	Catalog No.	Page	Catalog No.	Page
PBERD-200-12 43	PRAS-500		PREC-200-SA		PREL-100-PC	
PBERD-200-16 43	PRAS-500-SA		PREC-500		PREL-100-SA	
PHED-100-14 35	PRAS-1000		PREC-500-SA		PREL-150	
PHED-100-16 35	PRAS-1000-SA		PRED-75	23	PREL-150-PC	23
PHED-200-14 35	PREAD-500	45	PRED-75-SA	23	PREL-150-SA	23
PHED-200-16 35	PREAD-500-SA	45	PRED-100		PREL-200	23
PHED-500-24 35	PREAL-100	51	PRED-100-PC	23	PREL-200-PC	23
PHED-500-26 35	PREAL-100-SA	51	PRED-100-SA	23	PREL-200-SA	23
PHEDD-100-14 35	PREAL-150	51	PRED-150	23	PREL-500	23
PHEDD-100-16 35	PREAL-150-SA	51	PRED-150-PC	23	PREL-500-SA	23
PHEDD-150-14 35	PREAL-500	51	PRED-150-SA	23	PREL-1000	23
PHEDD-150-16 35	PREAL-500-SA	51	PRED-200	23	PREL-1000-SA	23
PHEDD-200-14 35	PREAL-1000	51	PRED-200-PC	23	PRERD-200	42
PHEDD-200-16 35	PREAL-1000-SA	51	PRED-200-SA		PRERD-200-PC	42
PHEDD-500-24 35	PBEB-60-12	17	PRED-500		PRERD-200-SA .	
PHEDD-500-26 35	PBEB-60-16		PRED-500-SA		PRERD-500	
PHEDD-1000-24 35	PBEB-75-12		PREDD-75		PRERD-500-SA	
PHEDD-1000-24 35	PBEB-75-16		PREDD-75-SA		PSAS-150	
PHEG-200 41	PBEB-100-12		PREDD-100		PX-1	
PHEG-200 Silvo 41	PBEB-100-16		PREDD-100-PC		PX-2	
PHEG-200 TT 41	PBEB-150-12		PREDD-100-PG		PX-3	
PHEG-500 41	PBEB-150-16		PREDD-150		PX-4	
					PX-5	
PHEG-500 Silvo 41	PREB-75		PREDD-150-PC		PX-7	
PHEG-500 TT 41	PREB-75-SA		PREDD-150-SA		PX-8	
PHEG-1000 41	PREB-100		PREDD-200			
PHEG-1000 TT 41	PREB-100-PC		PREDD-200-PC		PXAF-500	
PHEGS-200 39	PREB-100-SA		PREDD-200-SA		PXAF-500-SA	
PHEGS-200 Silvo 39	PREB-150		PREDD-500		PXAF-1000	
PHEGS-500 39	PREB-150-SA		PREDD-500-SA		PXAF-1000-Bi	
PHEGS-500 Silvo 39	PREB-200		PREDD-1000		PXAF-1000-SA	
PR-1 21	PREB-200-PC		PREDD-1000-SA		PXAF-1500	
PR-2 21	PREB-200-SA		PREG-200	41	PXAF-1500-SA	
PR-3 21	PREB-500		PREG-200 Silvo		PXAS-200	
PR-4 21	PREB-500-SA	23	PREG-200 TT	41	PXAS-200-PC	33
PR-5 21	PREB-1000	23	PREG-500	41	PXAS-200-SA	33
PR-7 21	PREB-1000-SA	23	PREG-500 Silvo	41	PXAS-500	
PR-821	PREC-75	23	PREG-500 TT	41	PXAS-500-SA	33
PRAF-500 32	PREC-75-SA	23	PREG-1000	41	PXAS-1000	33
PRAF-500-SA 32	PREC-100	23	PREG-1000 TT	41	PXAS-1000-Bi	37
PRAF-1000 32	PREC-100-PC	23	PREGS-200	39	PXAS-1000-SA	33
PRAF-1000-SA 32	PREC-100-SA		PREGS-200 Silvo	39	PXEAD-500	
PRAF-1500 32	PREC-150	23	PREGS-500	39	PXEAD-500-SA .	45
PRAF-1500-SA 32	PREC-150-PC		PREGS-500 Silvo	39	PXEAL-100	
PRAS-200	PREC-150-SA		PREL-75		PXEAL-100-SA	
PRAS-200-PC 33	PREC-200		PREL-75-SA		PXEAL-150	
PRAS-200-SA 33	PREC-200-PC	23	PREL-100	23	PXEAL-150-SA	51

# IVANHOE

# NUMERICAL INDEX - Continued

Catalog No.	Page	Catalog No. Page	Catalog No. Page	Catalog No.	Page
PXEAL-500	51	PXEDD-75 29	PXERD-200-PC 42	SBED-75	19
PXEAL-500-SA		PXEDD-75-SA 29	PXERD-200-SA 42	SBED-100	19
PXEAL-1000	51	PXEDD-100 29	PXERD-500 42	SBED-150	19
PXEAL-1000-SA	51	PXEDD-100-PC 29	PXERD-500-SA 42	SBED-200	19
PXEB-75	29	PXEDD-100-SA 29	RAF-50032	SBEDD-75	19
PXEB-75-SA		PXEDD-150 29	RAF-1000 32	SBEDD-100	19
PXEB-100	29	PXEDD-150-PC 29	RAF-1500 32	SBEDD-150	19
PXEB-100-PC	29	PXEDD-150-SA 29	RAS-200 33	SBEDD-200	19
PXEB-100-SA	29	PXEDD-200 29	RAS-500 33	SBEL-60	19
PXEB-150	29	PXEDD-200-PC 29	RAS-1000 33	SBEL-75	19
PXEB-150-PC	29	PXEDD-200-SA 29	READ-500 45	SBEL-100	19
PXEB-150-SA	29	PXEDD-500 29	REAL-100 51	SBEL-150	19
PXEB-200		PXEDD-500-SA 29	REAL-150 51	SBERD-200	43
PXEB-200-PC		PXEDD-1000 29	REAL-500 51	VO-60	47
PXEB-200-SA		PXEDD-1000-Bi 37	REAL-1000 51	VO-100	47
PXEB-500		PXEDD-1000-SA 29	REB-10022, 24, 28, 30	VR-60	47
PXEB-500-SA		PXEG-200 41	REB-20022, 24, 28, 30	VR-100	47
PXEB-1000		PXEG-200 Silvo 41	REB-50022, 24, 28, 30	VR-200	48
PXEB-1000-SA		PXEG-200 TT 41	REB-1000 22, 24, 28, 30	VR-500	48
PXEC-75		PXEG-500 41	REC-10022, 24, 28, 30	VREC-150	48
PXEC-75-SA		PXEG-500 Silvo 41	REC-15022, 24, 28, 30	VREDD-100	47
PXEC-100		PXEG-500 TT 41	REC-20022, 24, 28, 30	VREDD-150	48
PXEC-100-PC		PXEG-1000 41	REC-50022, 24, 28, 30	VREDD-200	48
PXEC-100-SA		PXEG-1000-Bi 36	RED-10022, 24, 28, 30	VREDD-500	48
PXEC-150		PXEG-1000 TT 41	RED-15022, 24, 28, 30	VREL-100	47
PXEC-150-PC		PXEGS-200 39	RED-20022, 24, 28, 30	VREL-150	48
PXEC-150-SA		PXEGS-200 Silvo 39	RED-500 22, 24, 28, 30	VREL-500	48
PXEC-200		PXEGS-500 39	REDD-100 22, 24, 28, 30	WGB-10	54
PXEC-200-PC		PXEGS-500 Silvo 39	REDD-150 22, 24, 28, 30	WGB-12	
PXEC-200-SA		PXEL-75 29	REDD-200 22, 24, 28, 30	WGB-14	54
PXEC-500		PXEL-75-SA 29	REDD-500 22, 24, 28, 30	WGB-16	
PXEC-500-SA		PXEL-100 29	REDD-1000 22,24,28,30	WGB-18	
PXED-75		PXEL-100-PC 29	REL-10022, 24, 28, 30	WGB-18	
PXED-75-SA		PXEL-100-SA 29	REL-15022, 24, 28, 30	WGB-20	54
DVED 100	2.9	PXEL-150 29		WGB-24	
PXED-100		PXEL-150-PC 29	REL-50022, 24, 28, 30	WGC-10	
PXED-100-I G		PXEL-150-SA 29	REL-1000 22, 24, 28, 30	WGC-12	
PXED-100-3A		PXEL-200 29	RERD-200 42	WGC-14	
PXED-150		PXEL-200-PC 29	RERD-500 42	WGC-16	
PXED-150-FG		PXEL-200-SA	S 19	WGC-18	
		PXEL-500 29	SA-60 53	WGC-20	
PXED-200		PXEL-500-SA 29	SBEB-60	WGC-24	
PXED-200-PC		PXEL-1000 29	SBEB-75	WGT-18	
		PXEL-1000 29	SBEB-100	WGT-20	
PXED-500		PXERD-200	SBED-60 19	WGT-24	
PXED-500-SA	29	1 ALITO-200 42			

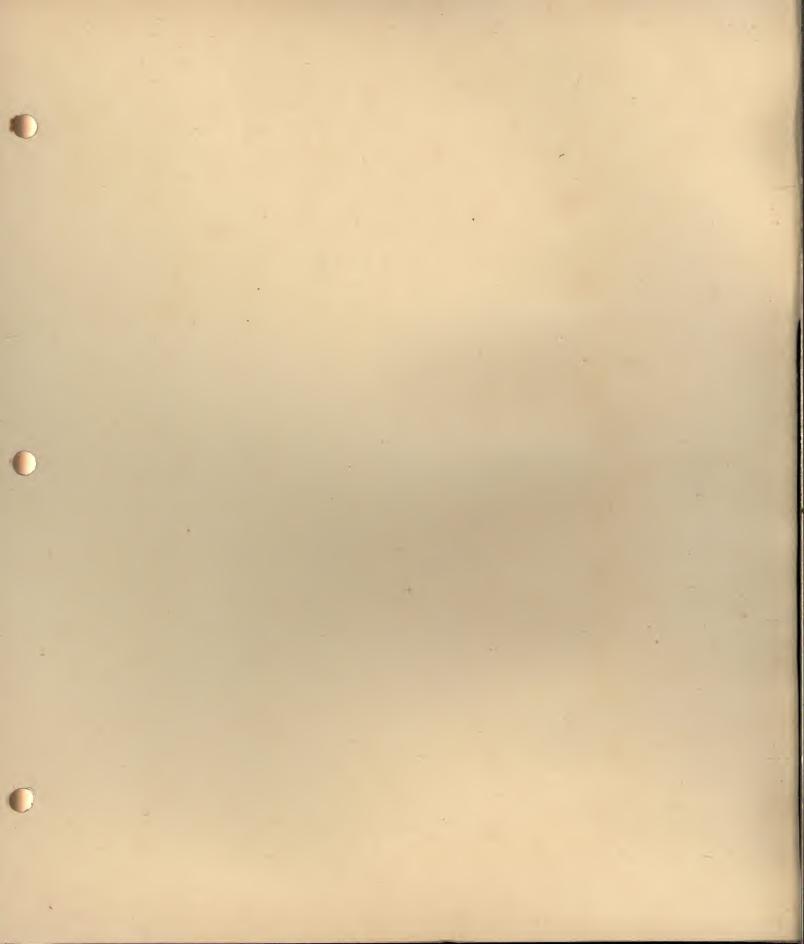
F. O. B. Meriden, Conn.

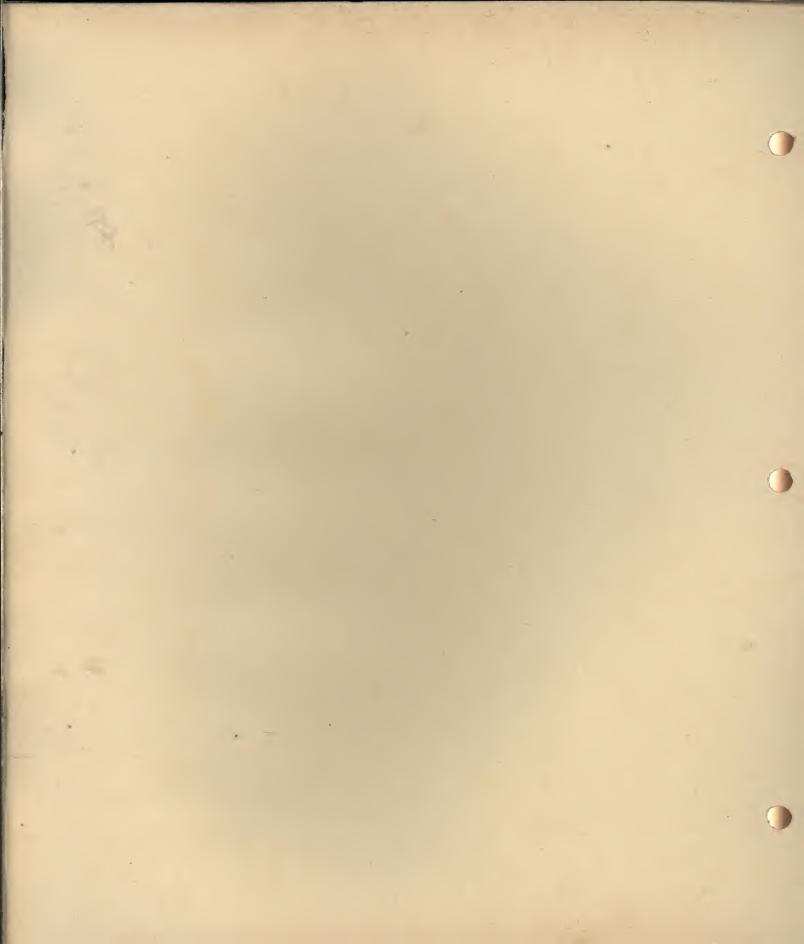
# ALPHABETICAL INDEX

	P	age
Aisle Lighting Reflectors		49
Aligners, Outlet Box Cover		55
Aluminum High Mounting Units3	2,	33
Bi-Post Mazda Lamp Reflectors3	6,	37
Brackets, Pipe		55
Connectors, Cord		55
Diffusers, Glassteel3	8-	-41
Silvered Bowl4	4,	45
Disconnecting Fittings		55
Socket Assemblies2	6,	27
Type Reflectors2	8-	-31
Fittings, Disconnecting	-	55
Suspension	-	55
Glassteel Diffusers	3-	41
Hangers, Pendant		$5\dot{5}$
High Mounting Units32	2,	33
Holders, Reflector	-	15
Illumination for Industrial Interiors	-7	, 8
Industrial Lighting Problems, How to Solve		6
Lamps, How to Select Proper Size	-	11
Pipe Brackets		55
Porcelain Bushing	_	55
Protective Covers, Reflector	-	52
Recommended Standards of Illumination	.7	, 8
Reflector Holders		15
Protective Covers		52

		age
Reflectors, Aisle-Lighting		49
B-Heel Type	16-	-19
Bi-Post Mazda Lamp	36,	37
Disconnecting Type	28-	-31
Heavy Duty Type	34,	35
How to Determine Mounting Height or		
Spacing	.12,	13
How to Select Proper Type	9,	10
Shade Holder	.16-	-19
Silvered Bowl Mazda Lamp	.42,	43
Special Angle		51
Special Service	.51,	53
Type R, Conduit Mounting	.20-	-23
Type R, Outlet Box Mounting	24,	25
Silvered Bowl Diffuser	.44,	45
Bowl Mazda Lamp Reflectors	.42,	43
Snap-Lock Holders		15
Socket Assemblies, Disconnecting	.26,	27
Sockets, Medium Base		21
Mogul Base		21
Shock-Absorbing		20
Ventilated		20
Sup-Lite Unit		50
Suspension Fittings		55
Vaporproof Units	46-	48









# LIGHTING EQUIPMENT for the MERCURY VAPOR LAMP

Catalog Section 1-B

# THE MILLER COMPANY

Pioneers in Good Lighting Since 1844

MERIDEN, CONNECTICUT

NEW YORK - 14 EAST 38TH STREET

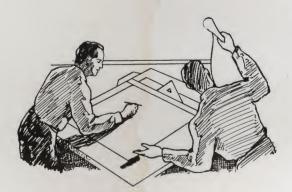
# IVANHOE

February 1, 1939

F.O.B. Meriden, Conn.

WITH THE DEVELOPMENT of the new highly-efficient Mercury lamp, the application of this type of lighting has been materially broadened. Throughout industry where the skill and efficiency of workmen are largely controlled by their ability to see well, mercury lighting provides an ideal type of illumination. However, without the proper reflector equipment the light is not properly controlled and therefore not utilized to best advantage.







Nation-wide service for all Miller products enables prompt filling of orders.

Behind each Ivanhoe reflector stands the Miller record of nearly 100 years of manufacturing dependability. The Miller Company is always in touch with the newest developments in lighting science and, with its own modern plant facilities, provides in Ivanhoe Mercury Vapor Lighting Equipment, the dependability, quality, and workmanship demanded by industry today. The Miller Company has its own modern rolling mills, foundries, spinning rooms, plating rooms, press rooms, plants for Alzak aluminum processing and porcelain enameling, a complete engineering staff and photometric laboratories. Ivanhoe reflectors are furnished in porcelain enamel or with Alzak aluminum finish which resists grease, dirt, abrasion and corrosion.

Complete engineering services are available at all times to assist in making the proper selection of lighting equipment and in designing a lighting layout. The Ivanhoe line of mercury lighting equipment includes types for practically every industrial application.



F.O.B. Meriden, Conn.





Vance Knitting Co., Kernersville, N. C. Ivanhoe 400-watt combination Mercury-Mazda reflectors provide average intensity of 60 footcandles. Mounting height, 11 feet. Spaced on 20-foot centers in work aisle, 9 feet between rows or aisles on staggered spacing.



Harris, Seybold, Potter Co., Cleveland, Ohio. Ivanhoe 400-watt high-mounting type Mercury reflectors provide average intensity of 20 footcandles. Mounting height, 21½ feet. Spaced in "zig-zag manner"— one unit to each 16x40 foot bay.

# IVANHOE

February 1, 1939

F.O.B. Meriden, Conn.



Wheeling Steel Corporation, Yorkville, Ohio. Ivanhoe 400-watt high-mounting type Mercury reflectors provide average intensity of 28 footcandles for tin plate sorting and inspection. Mounting height, 32 feet. In this area highly specular tin sheets of various sizes undergo a rigid final inspection to locate minute flaws that would require rejection.



Wallingford Steel Co., Wallingford, Conn. Ivanhoe 400-watt high-mounting type Mercury reflectors provide average intensity of 26 footcandles. Mounting height, 40 feet. Spaced on 16½-foot centers. Under this illumination, the careful preparation of high-grade sheet steel is performed with ease and certainty.



Davenport Hosiery Mills, Chattanooga, Tenn. Ivanhoe 250-watt Mercury-Mazda Glassteel type reflectors provide average intensity of 60 footcandles on work tables. Mounting height, 10 feet. Spaced 8x9 feet. The excellence of this installation permits the exacting inspection and grading of high-quality hosiery to be carried on both day and night with equal efficiency and certainty.



Briggs Manufacturing Co., Detroit, Mich. Ivanhoe 400-watt high-mounting type Mercury reflectors provide average intensity of 21 footcandles. Mounting height, 40 feet. Spaced 15x15 feet. Here the inspection and forming of huge welded-steel sheets is performed in the preparation of automobile bodies.

# IVANHOE

February 1, 1939

F.O.B. Meriden, Conn.



Ideal Foundry and Machine Co., Beaver Falls, Pa. Ivanhoe Mercury reflectors are spaced on 18x23 foot centers and provide an average intensity of 17 footcandles. Mounting height in the iron foundry, 18 feet, 8 inches and in the brass foundry, 16 feet, 2 inches.



Here's an example of Ivanhoe angle type 400-watt Mercury reflectors mounted along side wall in the body department of the Packard Motor Car Co., Detroit, Mich. Mounting height,  $7\frac{1}{2}$  feet. Spaced 10 feet apart. Average intensity, 100 footcandles along wall side.

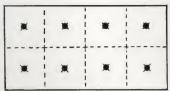
# DESIGNING A MERCURY LIGHTING SYSTEM

One of the more important advantages of Mercury Vapor lighting is that no changes in existing wiring are required when changing from incandescent to Mercury Lamps other than the addition of reactors or transformers, which do not necessarily have to be located close to the fixtures. An important consideration is the fact that the lighting intensity of inadequate installations, with present wiring already loaded to full capacity, can be practically doubled by the installation of this equipment without any rewiring.

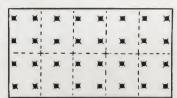
In many cases the color of the mercury vapor illumination alone is not objectionable. However, where some degree of color discrimination is desired, the intermingling of the light of the mercury lamp and Mazda lamps has proven very effective. It can be obtained either in a combination fixture, in which the two types of lamps are included, or by alternate spacing of outlets, having mercury lamps in one and Mazda lamps in the other.

#### COMPLETE MERCURY SYSTEM

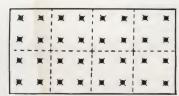
This type of installation is ideally suited to the automotive and similar types of industry where high levels of illumination are essential. It has proven effective for very high bays as well as for installations where the reflectors are mounted at normal heights. The wide range of reflector equipment makes possible proper distribution of light for a variety of applications.



Typical layout with one unit per bay. Bay must be no larger in size than maximum permissible spacing of the units.



This layout is equivalent to three units per bay. A four-two arrangement of units,



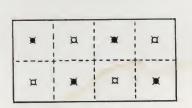
This layout is most common for square bays of normal dimensions. Four units per bay.

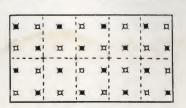
## ALTERNATE OUTLET SYSTEM

In this type of installation, mercury and Mazda lamps are used in alternate outlets, so that the illumination from each system is properly mixed and evenly distributed. The mercury lamps will increase the level of illumination with proportionately less heat radiation. The ratio of incandescent to mercury

light may be varied according to the desired color effect.

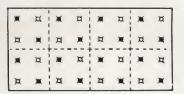
To determine footcandle intensities with this type of system, add the sum of one-half the footcandle intensities calculated in each case.





Incandescent Lamps

Mercury Lamps



F.O.B. Meriden, Conn.

#### DESIGNING A MERCURY LIGHTING SYSTEM

#### COMBINATION SYSTEM

With this type of lighting, the mercury and incandescent lamps are both housed in one reflector. The combination system has proven popular in the textile, metal-working and similar industries. The color of the light produced by this type of installation, is somewhat better than that provided by either the complete mercury or alternate outlet systems. Workers can enjoy a light that closely approximates daylight, regardless of outdoor conditions.

#### SUPPLEMENTARY SYSTEM

This system affords an economical and efficient means of obtaining higher levels of illumination without affecting the existing lighting system. The mercury system is simply added to existing incandescent lamp installations. To assure proper blending of light, mercury fixtures must be symmetrical with respects to incandescent lamp outlets.

The next step is to find the required number of footcandles for the given applications. Shown on page 10 is a table that gives the various intensities of light produced by the 250- and 400-watt mercury lamps for a given area. For example, if 15 footcandles of light are required, and the area to be lighted is 500 square feet, one 400-watt mercury lamp when used with the proper Ivanhoe reflector will provide the required intensity of illumination. By use of the table on page 11, the mounting height or spacing distance of the reflector may be determined.

#### Recommended Standards of Illumination for Industrial Interiors

Kecomme	nded Standards of IIII	umination for industri	al interiors
Foot-Candles		Foot-Candles	Foot-Candles
Aisles, Stairways, Pas-	Cleaning and Pressing	Hangars — Aeroplane:	Milling — Grain
sageways 5	Industry:	Storage — Live 10	Foods:
Assembly:	Checking and Sorting 20	Repair Department C*	Cleaning, Grinding and
Rough 10	Dry and Wet Cleaning	Ice Making - Engine	Rolling 10
Medium 20	and Steaming 10	& Compressor Room 10	Baking or Roasting 20
Fine B*		Inspection:	Flour Grading 30
Extra Fine A*	Pressing—Machine 20		Packing and Boxing 10
Automobile Mfg:	Hand C*	Rough 10	Paint Mixing 10
Assembly Line B*	72 4 4 2 2024 4	Medium 20	Paint Shops:
Frame Assembly 15	Repair and Alteration C*	Fine	Dipping, Spraying, Fir-
Body Manufacturing —	Cloth Products:	Extra Fine A*	ing, Rubbing, Ordi-
Parts20	Cutting, Inspecting,	Jewelry, Watch Mfg A*	nary Hand Painting
	Sewing—Light Goods 20	Laundries 20	and Finishing
Assembly 20		Leather Mfg:	Fine Hand Painting
Finishing, Inspecting A*	Pressing, Cloth Treat-	Vats 5	and Finishing B*
Bakeries 20	ing (Oil Cloth, etc.)	Cleaning, Tanning and	Extra Fine Hand Paint-
Book Binding:	Light Goods 10		
Folding, Assembling,	Dark Goods 20	Stretching 10	ing and Finishing
Pasting, etc. 10	Coal Tipples and	Cutting, Fleshing and	(Automobile Bodies,
Cutting, Punching and	Cleaning Plants:	Stuffing 15	Piano Cases, etc.) A*
Stitching	Breaking, Screening	Finishing and Scarfing. 20	Paper Box Mfg:
Embossing 20	and Cleaning 10	Leather Working:	Light
Breweries:	Picking A*	Pressing, Winding and	Dark 20
Brew House 5	Dairy Products 20	Glazing—Light 10	Storage 5
Boiling, Keg Washing	Elevators — Freight	Dark 20	Paper Manufacturing:
and Filling 10	and Passenger 10	Grading, Matching,	Beaters, Grinding, Cal-
Bottling 15	Engraving	Cutting, Scarfing, Sewing—Light	endering 10
Candy Making 20	Forge Shops, Welding. 10	Dark A*	Finishing, Cutting, Trimming 20
Canning, Preserving 20	Foundries:	Locker Rooms 5	
Chemical Works:	Charging Floor, Tum-	Machine Shops:	Plating 10 Polishing and
Hand Furnaces, Boil-	bling, Cleaning, Pour-	Rough Bench and	
ing Tanks, Stationary	ing and Shaking Out 5	Machine Work 10	Burnishing 15
Driers, Stationary and	Rough Molding and	Medium Bench and	Printing Industries:
Gravity Crystallizers. 5	Core Making 10	Machine Work, Or-	Type Foundries —
Mechanical Furnaces.	Fine Molding and Core	dinary Automatic	Matrix Making,
Generators and Stills.	Making 20	Machines, Rough	Dressing Type A*
Mechanical Driers,	Garages — Automobile:	Crinding Medium	Font Assembly —
Evaporators, Filtra-	Storage — Live 10	Grinding, Medium	Sorting B*
tion, Mechanical	Dead 2	Buffing and Polishing 20	Hand Casting C*
Crystallizers, Bleach'g 10	Repair Department and	Fine Bench and	Machine Casting 20
Tanks for Cooking, Ex-	Washing C*	Machine Work, Fine	Electrotyping —
tractors, Percolators,	Glass Works:	Automatic Machines,	Molding, Finishing,
Nitrators, Electrolytic	Mix and Furnace	Medium Grinding, Fine Buffing and Pol-	Leveling Molds, Routing, Trimming B*
Cells 15	Rooms, Pressing and		Blocking, Tinning C*
Clay Products and	Lehr, Glass Blowing	ishing B* Extra Fine Bench and	
Cements:	Machines 10		Electroplating, Wash-
Grinding, Filter	Grinding, Cutting Glass	Machine Work,	ing, Backing 20
Presses, Kiln Rooms. 5	to Size, Silvering 20	Grinding—Fine Work A* Meat Packing:	Photo Engraving —
Molding, Pressing,	Fine Grinding, Polish-		Etching, Staging 20
Cleaning, Trimming 10	ing, Beveling, Etching	Slaughtering 10 Cleaning, Cutting,	Blocking C* Routing, Finishing,
Enameling 15	and Decorating C*		Proofing B*
Color and Glazing 20	Inspection B*	Cooking, Grinding, Canning, Packing 20	Tint Laying A*
(*) — (**) see following page.	россион	Sammig, Facking 20	Tille Laying A
( ) see following page.			

February 1, 1939 F.O.B. Meriden, Conn.

#### Recommended Standards of Illumination for Industrial Interiors

Foot-Candles
ving, Spin-
20
arping on
20
d Slashing
-
ds 20
B*
1 — /H — 1
ds (Hand
Popidly C*
Rapidly A*
Tying-in,
B*
By Hand A*
lucts:
ripping,
10
Sorting A*
Vash
5
-Auto-
ich,
20
5
g:
wing and
k 10
ng, Rough
Medium
nd Bench
ng, Veneer-
and Ma-
rk, Fine
Finishing C*
i illisimig o
Picking,
Combing 10
yeing 10
Warping —
ls 15
s 30
s 15
s 30
chines 20
D. H.

\*Lighting recommendations for the more difficult seeing tasks, as indicated by A, B, and C in the foregoing table, are given in the following:

\*\*In these areas many of the machines require one or more supplementary lighting units in order to effectively direct light toward the working points.

Group A — These seeing tasks involve (a) the discrimination of extremely fine detail under conditions of (b) extremely poor contrast, (c) for long periods of time. To meet these requirements, illumination levels above 100 foot-candles are recommended.

To provide illumination of this order a combination of at least 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

Group B — This group of visual tasks involves (a) the discrimination of fine detail under conditions of (b) a fair degree of contrast (c) for long periods of time. 50 to 100 foot-candles of illumination are required.

To provide illumination of this order a combination of 10 to 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectionable

Group C-The seeing tasks in this group involve (a) the discrimination of moderately fine detail under conditions of (b) better than average contrast (c) for intermittent periods of time. The level of illumination required is of the order of 30 to 50 foot-candles and in some instances it may be provided from a general lighting system. Oftentimes, however, it will be found more economical and yet equally satisfactory to provide from 10 to 20 foot-candles from the general system and the remainder from specialized supplementary lighting. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

F.O.B. Meriden, Conn.

#### THE MERCURY LAMP

The Mercury Lamp is the result of years of research and development. The 400-watt size delivers slightly more light than that produced by the 750-watt incandescent lamp, while the 250-watt mercury lamp produces more light than is provided by 400 watts in incandescent lamps.

These lamps are self-starting and require about 8 to 10 minutes to develop full lumen output. If the current is interrupted momentarily, or overloads on the lines cause a voltage drop sufficient to extinguish the lamp, it will not relight until it has cooled to approximately room temperature. This interval varies up to about 10 minutes for the 400-watt lamp and somewhat shorter for the 250-watt size.

The H-1, 400-watt lamp, can be burned in vertical position only. It is furnished standard for base-up operation, but can be furnished for base-down operation on order. The H-2, 250-watt lamp can be mounted in any position.



H-2, 250-Watt Lamp with Medium Serew Base

#### BALLAST EQUIPMENT

The successful and continued operation of Mercury lamps depends upon properly designed ballast equipment. Transformers for both the 250- and 400-watt lamps are available in various types for 50 or 60 cycles as may be specified.

The Miller Company does not supply these lamps, nor their operating equipment, but will gladly refer to the manufacturer, inquiries for complete information regarding them.

#### INTENSITY OF ILLUMINATION

250-W	ATT	400-W	ATT
Area in Square Ft.	Approximate Footcandles	Area in Square Ft.	Approximate Footcandles
100	32	· · · ·	
200	17	200	38
300	10	300	24
400	8	400	19
500	6	500	15
600	5	600	13
700-800	4	700	11
800-1100	3	800	9
1200-2000	1-2	900	8
		1000	7
			6
			5
• • •			4
		$   \begin{array}{r}     1200 \\     1400 \\     1600-2000   \end{array} $	



H-1, 400-Watt Lamp with Mogul Screw Base

#### MOUNTING HEIGHT or SPACING of IVANHOE REFLECTORS

Shown below, in graphic form, are the three main types of Ivanhoe reflectors for the mercury lamp. To determine spacing distance of reflectors, lay ruler on the mounting height and read across. On the other hand if the spacing of the outlets is already established, read to the left to determine maximum mounting height in proportion to spacing, for each type of reflector.

## DOME TYPE OR GLASSTEEL DIFFUSER

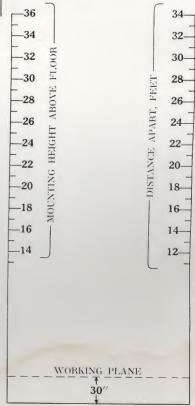
These two types of Ivanhoe reflectors are ideally suited for general lighting in a wide range of industrial locations. They provide an even level of illumination over a wide area.



#### MEDIUM BAY TYPE

A reflector with a medium spread distribution of light, that is ideal for average mounting heights.

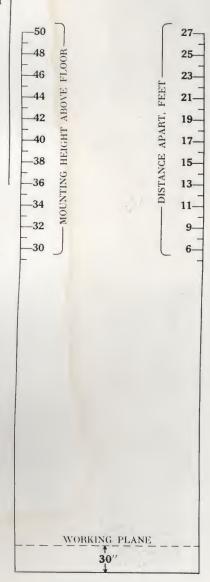




#### HIGH BAY TYPE

Furnishes concentrated distribution of light for exceptionally high mounting.





Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

### IVANHOE SOCKETS FOR THE MERCURY LAMP

#### STANDARD FOR TYPE R CONDUIT AND OUTLET BOX MOUNTING REFLECTORS



#### PENDANT TYPE

#### Standard Mogul

All Ivanhoe Mogul sockets are specially constructed so that excessive heat generated by the high-wattage lamps will be dissipated, eliminating welding or "freezing" of lamp bases.

Cat.	List	Delivery	Std.	Wt. Lbs.
No.	Price	Code*	Pkg.	Std. Pkg.
PR-4	\$1.50	A	10	15



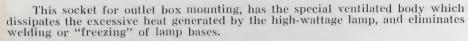


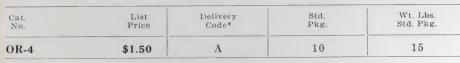
This socket should be used in those locations where excessive vibration is likely to damage the lamp filament. A spring mechanism interposed between the socket casting and the porcelain body cushions the lamp so that severe impacts will not damage the lamp filament.

Cat.	List	Delivery	Std.	Wt. Lbs.
No.	Price	Code*	Pkg.	Std. Pkg.
PR-5	\$1.60	A	10	16

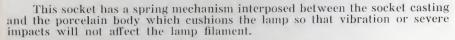
#### OUTLET BOX TYPE

#### Standard Mogul





#### Shock-Absorbing Mogul



Cat.	List	Delivery	Std.	Wt. Lbs.
No.	Price	Code*	Pkg.	Std. Pkg.
OR-5	\$1.60	A	10	16



#### VENTILATED SOCKET AND SHOCK-ABSORBING MECHANISM

The accompanying illustration shows both the Ivanhoe Shock-absorbing mechanism and the construction of the ventilated socket. The ventilated mogul socket which is furnished as standard equipment on all Ivanhoe Industrial reflectors insures trouble-free service. It allows for dissipation of excessive heat generated by the high-wattage lamps and eliminates "freezing" of lamp bases.

The simple shock-absorbing mechanism, which is interposed between the socket casting and the porcelain body, cushions the lamp so that severe shocks or vibration will not damage the filament.

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

#### IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS

FOR THE 250 AND 400-WATT MERCURY LAMP

All of the Type R reflectors listed on the three following pages and on page 21 have solid top neck construction as shown in the accompanying illustration. In each case, the socket is included with the reflector. With this type of neck construction it is possible to mount the reflector in several different ways. For instance, if the installation is to be permanent and the reflectors will not require frequent cleaning, either the conduit, or outlet box mounting type should be used. On the other hand, if they are installed in a location where there is an excessive amount of dirt, and where the reflector equipment will require frequent cleaning, Ivanhoe Disconnecting Type reflectors should be used (400watt size only).



#### FOR CONDUIT MOUNTING



These reflectors are furnished complete with sockets and are for either conduit or outlet box mounting. Sockets have a special brass cap, tapped for ½-inch conduit. (Can be supplied tapped for 3/4-inch conduit on request at no extra charge.) The illustration above shows how the reflector may be moved up on the conduit making the socket accessible for

#### DISCONNECTING ASSEMBLIES

WITH MOGUL BASE SOCKETS CONDUIT MOUNTING TYPE OUTLET BOX MOUNTING TYPE



holder.

Mogul ventilated socket com-

plete with disconnecting

Delivery Code\* .....

Std. Pkg. Wt. Lbs., Std. Pkg. List Price.







List Price...



0X-4 Mogul ventilated socket complete with disconnecting holder. Delivery Code\* ..... Std. Pkg. Wt. Lbs., Std. Pkg.

Mogul ventilated socket with shock-absorbing mechanism complete with holder.

Delivery Code\* A
Std. Pkg. 5
Wt. Lbs., Std. Pkg. 8 Mogul ventilated socket with shock-absorbing mechanism complete with holder. Delivery Code\* ..... 

 Std. Pkg.
 5

 Wt. Lbs., Std. Pkg.
 8

 List Price.
 \$2.00

 List Price.....\$2.00

\$1.90

PX socket assemblies tapped for  $\frac{1}{2}$ " conduit only. OX socket assemblies are for  $3\frac{1}{4}$ " or 4" outlet boxes.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

FOR OUTLET BOX MOUNTING



wiring. The aluminum top cap is furnished with left-hand thread which permits tightening the cap on the reflector without loosening the pipe connection at the ceiling.

The illustration above shows how the Type R reflector may be mounted directly on the outlet box.

> DISCONNECTING TYPE For Conduit or Outlet Box Mounting



With the Ivanhoe disconnecting type holder, the whole lighting unit, including the lamp, may be removed without disturbing the wiring connections. Only a slight turn and upward pressure is required to take down or replace the complete assembly. The pendant type holder is for ½-inch conduit only. The outlet box holder is for 31/4- or 4-inch outlet boxes.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

#### IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS

FOR THE 400-WATT MERCURY LAMP

HIGH BAY TYPE



RAS-400

This reflector, with Alzak finish, provides high reflection efficiency with accurate concentrated distribution of light for the lighting of high bays where mounting height is 25 feet or more. It is made of No. 16 gauge aluminum with the Alzak finish, inside and out, and will not tarnish or discolor. This type of finish does not depreciate, is easy to clean and is not affected by heat, dirt, or other atmospheric conditions. Furthermore, it provides excellent light output and control.

#### REFLECTOR ONLY

Cat.	Cat. List Deliv		Dimen.	, Inches	Std.	Wt. Lbs.,
No.	Price	Delivery Code*	Diam.	Depth	Pkg.	Std. Pkg.
RAS-400	\$15.00	В	18	18½	3	26

#### REFLECTORS COMPLETE WITH SOCKETS SOLID TOP TYPE

	Cat.	List	Delivery	Dimen., Inches		Std.	Wt. Lbs.,
SOCKETS§	No.	Price	Code*	Diam.	Depth	Pkg.	Std. Pkg
PENDANT TYPE† PR-4 Standard Mogul	PRAS-400	\$16.50	В	18	181/2	3	30
PR-5 Shock-absorb. Mog.	PRAS-400-SA	16.60	В	18	18½	3	30
OUTLET BOX TYPE OR-4 Standard Mogul	ORAS-400	\$16.50	В	18	18½	3	30
OR-5 Shock-absorb. Mog.	ORAS-400-SA	16.60	В	18	$18\frac{1}{2}$	3	30

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY)!

PENDANT TYPE PX-4 Standard Mogul PX-5 Shock-absorb. Mog.	PXAS-400 PXAS-400-SA	\$16.90 17.00	ВВ	18	213/4 213/	3	33
OUTLET BOX TYPE OX-4 Standard Mog.	OXAS-400	\$16.90	В	18	213/4	3	33
OX-5 Shock-absorb. Mog.	OXAS-400-SA	17.00	В	18	213/4	3	33

Finish: Alzak aluminum.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

† Sockets tapped standard for ½" conduit but will be supplied tapped for ¾" conduit on request at no extra charge.

§ For listing of sockets only, see page 12. ‡ For description disconnecting socket assemblies, see page 13. For listing of holders only, see page 23.

#### IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS

FOR THE 400-WATT MERCURY LAMP DEEP DOME TYPE

This porcelain enameled reflector provides a wide spread distribution of light similar to that of the RLM Dome. It is designed for the lighting of low bays where mounting heights are from 8 to 15 feet. The Genco glass diffusing band which surrounds the Mercury lamp, provides adequate shielding from glare at all ordinary angles of vision.

Finish: Green porcelain enamel outside; white porcelain enamel inside.



REDD-400

#### REFLECTOR ONLY (WITH GLASS DIFFUSING BAND - LESS SOCKET)

	***	D 1:	Dimen.	, Inches	G+3	W/4 T.L.
Cat. No.	List Price	Delivery Code*	Diam.	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
REDD-400	\$7.20	В	22	15	4	40
GLASS I	DIFFUSING BA	ND ONL	Y (FOR I	REPLACE	MENT)	
G-248 Genco	\$0.75	В	$5\frac{1}{2}$	23/4	5	10

#### REFLECTORS COMPLETE WITH SOCKETS SOLID TOP TYPE

SOCKETS§	Cat		D-15	Dimen., Inches		Std.	Wt. Lbs.,
	Cat. No.		Delivery Code*	Diam.	Depth	Pkg.	Std. Pkg
PENDANT TYPE† PR-4 Standard Mogul PR-5 Shock-absorb. Mog.	PREDD-400 PREDD-400-SA	\$8.70 8.80	B B	22 22	15 15	4 4	46 46
OUTLET BOX TYPE OR-4 Standard Mogul OR-5 Shock-absorb. Mog.	OREDD-400 OREDD-400-SA	\$8.70 8.80	B B	22 22	15 15	4 4	46 46

#### DISCONNECTING TYPE (WITH DISCONNECTING SOCKET ASSEMBLY);

PENDANT TYPE PX-4 Standard Mogul PX-5 Shock-absorb. Mog.	PXEDD-400 PXEDD-400-SA	\$9.10 9.20	B B	22 22	17 <sup>3</sup> / <sub>4</sub> 17 <sup>3</sup> / <sub>4</sub>	4 4	50 50
OUTLET BOX TYPE OX-4 Standard Mogul OX-5 Shock-absorb. Mog.	OXEDD-400 OXEDD-400-SA	\$9.10 9.20	B B	22 22	$17\frac{3}{4}$ $17\frac{3}{4}$	4 4	50 50

Finish: Green porcelain enamel outside, white porcelain enamel inside.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

† Sockets tapped standard for ½" conduit but will be supplied tapped for ¾" conduit on request at no extra charge.

§ For listing of sockets only see page 12.

For description disconnecting socket assemblies, see page 13. For listing of holders only, see page 23.

Inspected by Underwriters' Laboratories

F.O.B. Meriden, Conn.

#### IVANHOE TYPE R CONDUIT MOUNTING REFLECTORS

FOR THE 400-WATT MERCURY LAMP

#### GLASSTEEL DIFFUSER



This is the most practical type of lighting unit for practically any type of industrial application where a soft even level of illumination is desired. The large white porcelain enameled dome, in combination with an enclosing globe of light density Genco glass provides an even level of illumination over a wide area. Harsh shadows and glare are eliminated. Apertures at the top of the reflector permit some of the light to be directed upward to the ceiling, improving the general illumination.

#### REFLECTOR ONLY

(WITH GLOBE - LESS SOCKET)

C	T	D 11	Dimen., Inches		Q. 1	Wt. Lbs.,
Cat. No.	List Price	Delivery Code*	Diam.	Depth	Std. Pkg.	Std. Pkg.
REG-400	\$17.00	В	$24\frac{1}{2}$	15	2	
	GLOBES ON	ILY FOR R	EPLACE	MENT		
G-5784x16 Gence	7.25	В	16	9	2	20

#### REFLECTORS COMPLETE WITH SOCKETS

SOLID TOP TYPE

	Ġ.	List	D.P.	Dimen.	, Inches	Gr 3	Wt. Lbs	
SOCKETS§	Čat. No.	Price	Delivery Code*	Diam.	Depth	Std. Pkg.	Std. Pkg.	
PENDANT TYPE† PR-4 Standard Mogul PR-5 Shock-absorb. Mog.	PREG-400 PREG-400-SA	\$18.50 18.60	B B	$24\frac{1}{2}$ $24\frac{1}{2}$	15 15	2 2	35 35	
OUTLET BOX TYPE OR-4 Standard Mogul OR-5 Shock-absorb. Mog.	OREG-400 OREG-400-SA	\$18.50 18.60	B B	$24\frac{1}{2}$ $24\frac{1}{2}$	15 15	2 2	35 35	
DISCONNECT	TING TYPE (WITH DIS	CONNECTIN	G SOCKET	ASSEM	BLY)‡			
PENDANT TYPE PX-4 Standard Mogul PX-5 Shock-absorb. Mog.	PXEG-400 PXEG-400-SA	\$18.90 19.00	B B	$24\frac{1}{2}$ $24\frac{1}{2}$	18 <sup>3</sup> / <sub>4</sub> 18 <sup>3</sup> / <sub>4</sub>	2 2	35 35	
OUTLET BOX TYPE OX-4 Standard Mogul OX-5 Shock-absorb, Mog.	OXEG-400 OXEG-400-SA	\$18.90 19.00	B B	$24\frac{1}{2}$ $24\frac{1}{2}$	18 <sup>3</sup> ⁄ <sub>4</sub> 18 <sup>3</sup> ⁄ <sub>4</sub>	2 2	35 35	

Finish: White porcelain enamel inside and outside.

\* Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks. † Sockets tapped standard for ½" conduit but will be supplied tapped for ¾" conduit on request at no extra charge.

§ For listing sockets only, see page 12. ‡ For description of disconnecting socket assemblies, see page 13. For listing of holders only, see page 23.

F.O.B. Meriden, Conn.

#### IVANHOE DUST-PROOF REFLECTORS

FOR THE 400-WATT MERCURY LAMP

Gasket which fits between socket holder and reflector neck sealing the assembly and making it dust-proof.

Fins on the reflector neck radiate heat generated by the high-intensity Mercury lamp.

In many areas where dust, dirt and smoke create a serious maintenance problem, it is essential that completely dust-tight reflector equipment be used. In the conventional

forms of dome and high-bay reflectors, the socket temperatures of the mercury lamp are within a very few degrees of maximum allowable limits set by the lamp manufacturers in guaranteeing the life and output ratings of these lamps. When such ordinary reflectors are closed on the bottom by dust

Three barrel nuts fasten the socket holder to the reflector.

Cast aluminum cap to which the conduit and socket are connected.

covers, these operating temperatures exceed by far the maximum allowable amounts even at normal room temperatures.

The unique radiating top construction of the Ivanhoe equipment shown here was developed to overcome this condition and to permit the lamps to operate within the stated limits. By test, the socket operating temperature in this equipment is lower by 70° F or more than with similar reflectors with the ordinary closed socket cover construction and dust covers.

#### DOME TYPE

This reflector provides wide spread distribution of light similar to that of the RLM Dome. Designed for low bay areas where mounting heights are from 8 to 15 feet. Made of steel with black Duco finish outside; white porcelain enamel inside, it is efficient and easy to clean. With the H-787-A etched glass dust cover which is held in place by a metal clamping ring, the unit is dust- and weather-proof.



RDEDD-400

#### REFLECTOR COMPLETE WITH SOCKET

Catalan	List Delivery		Dimension	ns, Inches	Standard	Wt. Lbs.	
Catalog Number	List Delivery Code*		Diameter	Depth	Package	Std. Pkg.	
RDEDD-400	\$19.25	В	22	17	1	30	

Finish: Black Duco outside; white porcelain enamel inside.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.

#### IVANHOE DUST-PROOF REFLECTORS

FOR THE 400-WATT MERCURY LAMP



RDAF-400

#### MEDIUM BAY TYPE-RDAF-400

This reflector with its semi-concentrated distribution of light is for lighting medium bays where mounting heights are from 15 to 25 feet. It is made of No. 16 gauge aluminum, black Duco outside with inside reflecting surface of Alzak finished aluminum which is not affected by heat, dirt, or other atmospheric conditions. Equipped with the H-787-B clear glass dust cover.

#### HIGH BAY TYPE-RDAS-400

This reflector furnishes a concentrated distribution of light for the lighting of high bays where mounting height is 25 feet or more. Made of No. 16 gauge aluminum, black Duco outside, with inside reflecting surface of Alzak finished aluminum, which is not affected by heat, dirt or other atmospheric conditions. Supplied standard with H-787-B clear glass dust cover.



**RDAS-400** 



#### ANGLE REFLECTOR - RDAL-400

This 45 degree angle reflector is made from No. 16 gauge aluminum finished in black Duco — inside reflecting surface Alzak aluminum. The wide spread distribution of light makes it ideally suited for automobile body finishing lines. The special H-787-B dust cover, with acid etched glass, provides adequate diffusion. The offset suspension counterbalances the reflector so that the unit maintains its true angle even when attached to a flexible suspension. Can also be supplied at angles less than 45 degrees for mounting in craneway bays, etc.

#### REFLECTORS COMPLETE WITH SOCKETS

0.4.1	т	D.B.	Dimension	as, Inches	Std.	Wt. Lbs.,
Catalog List Number Price	Delivery Code*	Diameter	Depth	Pkg.	Std. Pkg.	
RDAF-400	\$23.35	С	18	20	1	18
RDAS-400	23.35	C	18	$20\frac{1}{4}$	1	18
RDAL-400	23.60	C	18	$20\frac{1}{2}$	2	36

Finish: Black Duco outside; Alzak finished aluminum inside.

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.

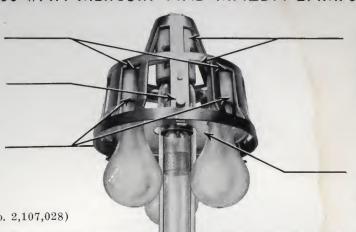
### IVANHOE COMBINATION REFLECTORS

400-WATT MERCURY AND MAZDA LAMPS

All of the wireways to the sockets are enclosed.

Reflector is fastened to holder by 3 steel clamps operated by thumb screws.

3 medium auxiliary sockets for 150watt Mazda Lamps.



Open construction of holder provides ventilation and reduces temperature surrounding the lamp.

Aluminum inner reflector closes fitter opening and provides more efficient lighting.

(Patented No. 2,107,028)

The color quality of the illumination provided by the Mercury lamp is similar yet somewhat whiter than that of the Cooper Hewitt Mercury Vapor Lamp.

The major portion of the visible energy is produced in the center or yellow-green area of the visible spectrum to which eyes respond most efficiently, and the balance of energy produced is at the blue end. Red is entirely lacking. The color of the illumination can be greatly improved by the addition of incandescent lamps in the proper propor-

tion. Ivanhoe combination reflectors, using one 400-watt Mercury lamp and three 150-watt Mazda lamps, mix the light from the Mazda lamps with the light from the Mercury lamp and provide a blend of color that is more pleasing in appearance and makes possible more accurate color discrimination.

In addition, after a current interruption or a voltage drop on the line, the Mazda lamps furnish emergency lighting while the Mercury lamp is cooling and relighting.

#### DOME TYPE

This reflector provides wide spread distribution of light and adequate vertical illumination similar to that of the RLM Dome. It is designed for the lighting of low bays where mounting heights are from 8 to 15 feet. Made of steel, porcelain enameled, green outside — white inside, it is efficient and easy to clean. A Genco glass diffusing band, which surrounds the mercury lamp, provides adequate shielding from glare at all ordinary angles of vision.



PCEDD-400

#### REFLECTOR COMPLETE WITH HOLDER AND DIFFUSING BAND

	***	Delissons	Dimension	s, Inches	Standard Package	Wt. Lbs. Std. Pkg.
Catalog Number	List Price	Delivery Code*	Diameter	Depth		
PCEDD-400	\$14.70	В	22	151/4	1	20
	(	Genco Diffus	ing Band Onl	у		
G-248 Genco	\$ 0.75	A	$5\frac{1}{2}$	$2\frac{3}{4}$	5	10

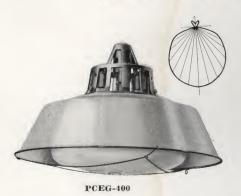
<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.

#### IVANHOE COMBINATION REFLECTORS

#### 400-WATT MERCURY-150 WATT MAZDA LAMPS

#### COMBINATION GLASSTEEL DIFFUSER-PCEG-400



This reflector with its white porcelain enameled dome reflector and Genco glass globe provides a soft even level of illumination on the vertical as well as the horizontal surfaces over a wide area. Harsh shadows and glare are reduced to a minimum. The three 150-watt Mazda lamps give a fair degree of color correction and also provide emergency lighting during the cooling-relighting-warming-up of the Mercury Lamp after a current interruption. The diffusing glass globe No. G-52043x16 Genco is held firmly without strain in an aluminum seating by a heavy-gauge wire holder that hooks across the reflector bead. Hole in bottom of glass provides ventilation and reduces temperature surrounding lamp. Finish: white porcelain enamel inside and outside.

#### COMBINATION HIGH BAY TYPE—PCAF-400

This reflector with Alzak finish, provides high reflection efficiency with accurate concentrated distribution of light. It is designed for the lighting of high bays where mounting height is 25 feet or more. Made of No. 16 gauge aluminum with Alzak finish inside and out, it will not tarnish or discolor. The patented cast aluminum ventilated holder attaches to the reflector by three steel clamps operated by thumb screws. It provides for three 150-watt incandescent lamps for auxiliary lighting. With these lamps burning continuously, the Mercury lamp will cool to its low starting temperature and relight after a current interruption.



PCAF-400

#### REFLECTORS COMPLETE WITH HOLDERS

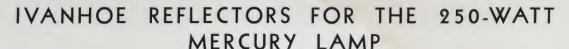
Catalog List Number Price	Lint	Dolissons	Dimension	ns, Inches	Std.	W/4 I ba
	Delivery Code*	Diameter	Depth	Pkg.	Wt. Lbs., Std. Pkg.	
PCEG-400 PCAF-400	\$24.90 21.00	B B	24½ 20	16 19½	1 1	30 15

#### Globe Only for Glassteel Diffuser

G-52043x16 GENCO 8.00	В	16	10	2	20
-----------------------	---	----	----	---	----

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.



In many locations the 400-watt Mercury lamp cannot be used to good advantage because of its high wattage and large reflector equipment. With the development of this smaller Mercury lamp with its lower light output and smaller reflector equipment a much wider range of application is made possible.

It has the single tubular bulb with opal glass extension and has medium screw base.

Unlike the 400-watt lamp, it can be burned in any position.

#### DOME TYPE-RDEDD-250

A steel porcelain enameled dome reflector equipped with Ivanhoe KS-18 dust cover with etched glass plate, that provides a wide spread distribution of light similar to that of the RLM standard dome. It is ideal for the lighting of low bay areas with mounting heights up to 15 feet. It is furnished in the conduit mounting type only and is furnished complete with socket. Finish: green porcelain enamel outside; white porcelain enamel inside.



#### GLASSTEEL DIFFUSER—PREGS-250



A glassteel diffuser type reflector for the lighting of low bay areas with mounting heights up to 15 feet. It is made of steel, porcelain enameled and is equipped with glass diffusing globe No. G-2444x12 Genco. It is dust-tight and provides a widespread distribution of diffused light with low surface brightness. Finish, reflector: white porcelain enamel inside and out.

#### REFLECTORS COMPLETE WITH SOCKETS

With PR-1 Standard Medium Socket  With PR-2 Shock- absorbing Medium Socket				Dimonaio	ns, Inches			
Catalog Number	List Price	Catalog Number	List Price	Delivery Code*	Diameter	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
RDEDD-250 PREGS-250		RDEDD-2508 PREGS-2508			18 20 <sup>3</sup> ⁄ <sub>4</sub>	$12\frac{3}{4}$ $12\frac{3}{8}$	4 4	46 58

#### Globe Only for Glassteel Diffuser

Catalog	List	Delivery	Standard	Wt. Lbs.,
Number	Price	Code*	Package	Std. Pkg.
G-2444x12 Genco	\$3.60	A	4	20

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

F.O.B. Meriden, Conn.

#### IVANHOE COMBINATION REFLECTORS

#### 250-WATT MERCURY-300-500-WATT MAZDA LAMP



The 250-watt combination reflectors serve the same general purpose as those designed for the 400-watt Mercury Lamp. In addition to providing emergency lighting during any interruption in the circuit, these auxiliary lamps provide a fair degree of color correction.

For ordinary applications, a 300-watt auxiliary lamp provides color correction suitable for most requirements while a 500-watt auxiliary lamp provides light that is more comparable to that of natural daylight.

The threaded porcelain enameled holder contains sockets for both the Mercury and auxiliary lamps arranged to wire and assemble in a manner similar to the standard Conduit Mounting Type R Reflectors. An Alzak aluminum inner reflector closes the bottom of the holder and intercepts and utilizes light that would otherwise be lost.

## COMBINATION DOME PCEDD-250

This combination dome reflector provides a wide distribution of light similar to that of the RLM Dome, and is ideal for the lighting of low bay areas where mounting heights do not exceed 15 feet. It provides for the use of a 300- or 500-watt auxiliary Mazda lamp along with the 250-watt High Intensity Mercury lamp for color correction or for emergency lighting. The reflector is steel porcelain enameled green outside and white inside, and is equipped with the KS-18 etched glass dust-tight cover.

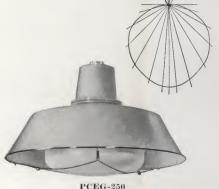


PCEDD-250



as well as on the horizontal surfaces over a wide area. It is adaptable to practically any location where the mounting height is not more than 15 feet. Harsh shadows and glare are reduced to a minimum. The reflector is white porcelain enamel inside and out, with diffusing glass globe No. G-52062x 13 Genco. The globe is held firmly in place by a heavy gauge wire holder that hooks across the reflector bead.

Either a 300- or 500-watt Mazda lamp may be used as an auxiliary light source to supplement the 250-watt Mercury Lamp.



REFLECTORS COMPLETE WITH HOLDERS AND SOCKETS

Catalog List Number Price	Lint	Delimone	Dimension	s, Inches	Q+ 3	W74 I 1
		Delivery Code*	Diameter	Depth	Std. Pkg.	Wt. Lbs., Std. Pkg.
PCEDD-250 PCEG-250	\$13.50 16.50	ВВ	$\frac{18}{20\frac{3}{4}}$	$   \begin{array}{r}     13\frac{1}{2} \\     13\frac{1}{2}   \end{array} $	2 2	30 30

#### Globes Only for Glassteel Diffuser

Catalog	List	Fits Reflector	Delivery	Std.	Wt. Lbs.,
Number	Price	Diameter, Inches	Code*	Pkg.	Std. Pkg.
G-52062x13 Genco	\$4.50	203/4	В	2	91/2

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

#### IVANHOE SPECIAL SERVICE EQUIPMENT

#### Outlet Box Cover Aligner—AC-941



The cast-iron ball, suspended between two plates, moves freely and allows the fixture to hang plumb when boxes are at an angle up to 45 degrees. The use of this device also improves the efficiency of the installation and protects the reflector or

fittings from jars or bumps from poles, ladders, or similar objects. Designed for use on standard 31/4or 4-inch outlet boxes. The ball is tapped for ½inch conduit and has two slots to permit it to be held with a wrench while conduit or pipe is being screwed in place. Standard finish, galvanized iron.

#### Porcelain Insulating Bushing AC-901



This porcelain insulating bushing is suitable for all Ivanhoe Separable Holders and Conduit Mounting Type Reflectors which are tapped for ½-inch pipe. It is made of high-quality porcelain. Clean-cut threads; inside top edge beveled. The bushing insulates the holder and prevents fraying and wearing of insulation on the wire.

#### ACH-1314 Industrial Pendant Hanger—ACH-1314

This pendant hanger has %-inch adjustable hickey, threaded lock-ring to permit canopy to be lowered. %-inch brass tubing 18 inches long which terminates with a 1/2-inch male threaded bushing for attaching reflectors. Finished in Nuvon chrome.

#### Shock-Absorbing Outlet Box Cover Aligner AC-1041



AC-1041

This aligner is identical with the AC-941, described above, with the exception that it is of the shock-absorbing type. As illustrated, a heavy spring floats the reflector or fitting, protecting the equipment from shocks or jars.

#### Pipe Bracket-AC-660



The AC-660 is a 1/2-inch galvanized pipe bracket and is supplied complete, bracket only or pole plate only; please specify when ordering.

#### Cord Strain Connector—AC-656

Cord Strain Connector—1/2-inch pipe size—for use with Conduit Mounting Type Reflectors and separable holders. The nozzle is bored smooth and will not fray or tear the insulation.



AC-656

#### Suspension Fitting—AC-658



Cast aluminum suspension eye fitting of heavy, durable construction equipped with porcelain insulating bushings to prevent the wire from becoming frayed. Threaded for ½-inch fittings. Standard finish, natural aluminum.

#### Ivanhoe Disconnecting Fittings

AC-1080 and AC-1082 Ivanhoe disconnecting holders allow for quick and easy removal of entire lighting unit, including lamp, without disturbing wiring connections. Only a slight turn and upward pressure is required to take down or replace a complete reflector as-sembly. These units carry the Underwriters' approval and may be used with any onepiece solid top reflector equipment. They are rugged and fool-proof. AC-1080 is tapped for ½" iron pipe at both ends. AC-1082 is for mounting on 3¼" or 4" outlet boxes; lower

end tapped for ½" conduit.
These devices cannot be used on combination equipment unless wired between the operating equipment and the line.



AC-1080



AC-1080

Catalog No.	List Price	Delivery Code*	Description	Std. Pkg.	Wt. Lbs., Std. Pkg.
AC-941	\$0.30	A	Outlet Box Cover Aligner	10	7
AC-1041	.65	A	Shock Absorbing Outlet Cover Box Aligner	10	7
AC-656	.10	A	Cord Strain Connector	50	4
AC-660	.95	В	Pipe Bracket and Plate	10	35
AC-660	.60	В	Pipe Bracket	10	25
AC-660	.35	В	Pole Plate	10	10
AC-658	. 95	A	Suspension Fitting	20	7
AC-901	.08	A	Porcelain Insulating Bushing	100	15
ACH-1314	1.75	В	Industrial Pendant Hanger	10	20
AC-1080-	1.75	В	Outlet Box Disconnecting Device	10	10
AC-1080	1.75	В	Conduit Disconnecting Device	10	10

<sup>\*</sup> Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

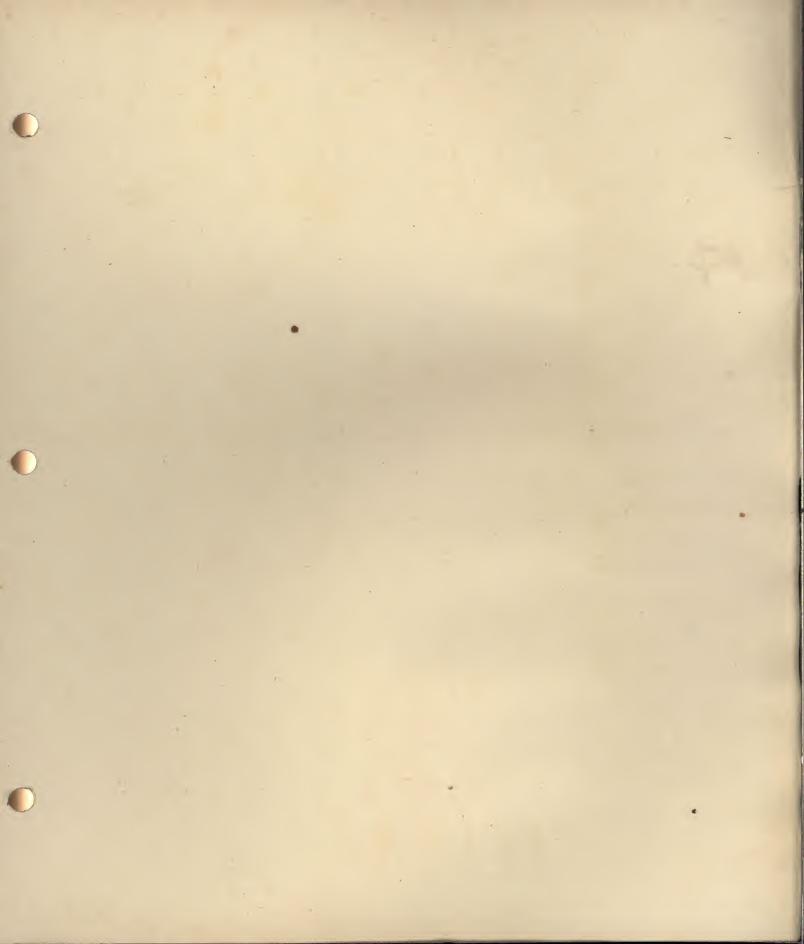
F.O.B. Meriden, Conn.

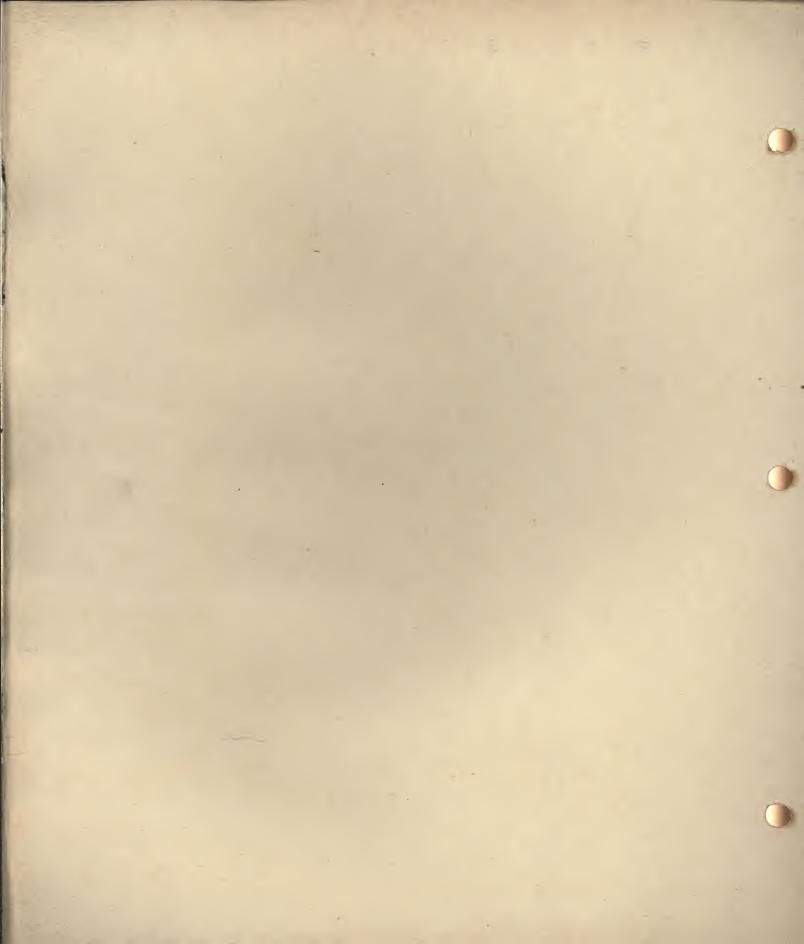
### NUMERICAL INDEX

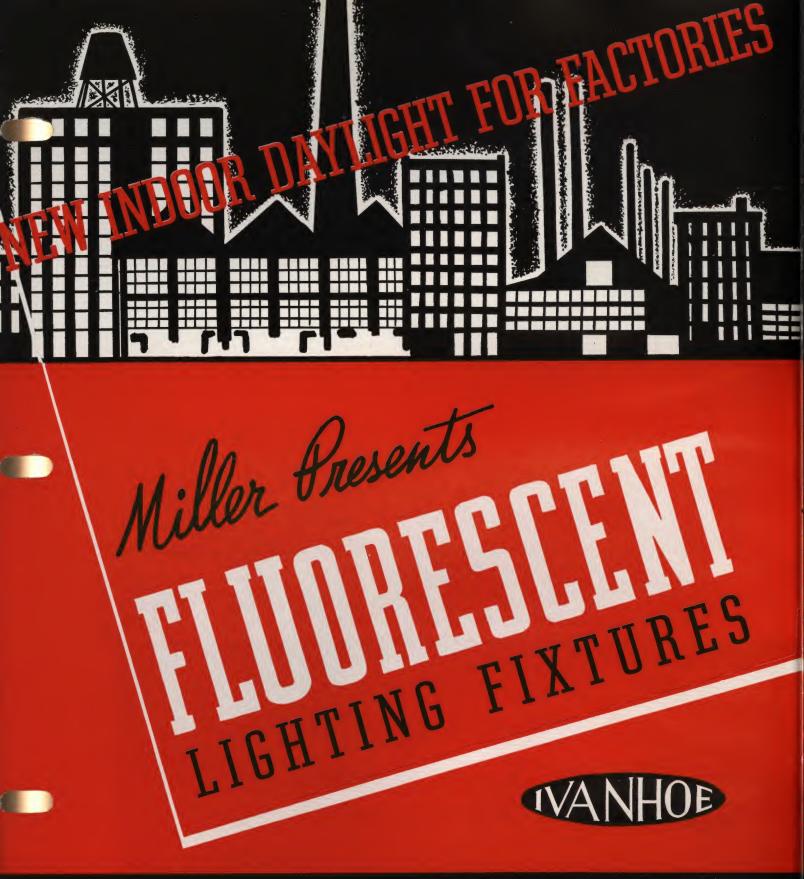
Cat. No.			Page	Cat. No.	
AC-656	23	OREDD-400-SA	15	PREDD-400-SA	
AC-658	23	OREG-400	16	PREG-400	
AC-660	23	OREG-400-SA	16	PREG-400-SA	16
AC-901	23	OXAS-400	14	PREGS-250	
AC-941	23	OXAS-400-SA	14	PREGS-250-SA	21
AC-1041	23	OXEDD-400	15	PXAS-400	14
AC-1080	23	OXEDD-400-SA	15	PXAS-400-SA	
AC-1082	23	OXEG-400	16	PXEDD-400	
ACH-1314	23	OXEG-400-SA .	16	PXEDD-400-SA	
G-248 Genco	15, 19			PXEG-400	
G-5784-16 Genco	16	PCEDD-250	22	PXEG-400-SA	
G-2444x12 Genco	21	PCEDD-400		RAS-400	
G-52043x16 Genco	20	PCEG-250	22	RDAF-400	
G-52062x13 Genco	22	PCEG-400		RDAL-400	
OR-4	12	PR-4	12	RDEDD-250	
OR-5	12	PR-5	12	RDEDD-250-SA	
ORAS-400	14	PRAS-400	14	RDEDD-400	
ORAS-400-SA	14	PRAS-400-SA	14	REDD-400	15
OREDD-400	15	PREDD-400	15	REG-400	16

### ALPHABETICAL INDEX

	A	Page	L	Page
Aligners, Outlet Box	Cover.	23	Lamps, Mercury	10
Angle Reflectors			M	
	В		Medium Bay Type Reflectors.	18
Brackets, Pipe		23	Mercury Lamps	10
	C	*	Mounting Heights of Reflecto	rs 11
Cord Connectors, St	rain	23	Pipe Brackets	23
Designing Mercury I Diffusers, Glassteel . Disconnecting Fitting		16, 20–22	Recommended Standard of II Reflector Sockets	12
Dome Type Reflector			Reflectors, Angle Type Combination	
Dust-Proof Reflectors			Conduit Mounting	
	$\mathbf{F}$		Dome Type15	,
Fittings, Disconnection	ıg	23	Dust-Proof	
Suspension		23	High Bay Type	14, 18, 20
Glassteel Diffusers		16, 20–22	Medium Bay Type	
	Н		Mounting Height of	11
Hangers, Pendant		23	Outlet Box Mounting	13
High Bay Type Refle			S	
	I		Sockets, Mercury Lamp	12
Illumination for Indu	strial		Spacing of Reflectors	11
Interiors, Recomm	ended	Standards8, 9	Suspension Fittings	23







FOR USE WITH THE NEW FLUORESCENT DAYLIGHT MAZDA LAMPS

# The FINEST DAYLIGHT...INDOO! THE WORLD HAS EVER SEEN

The Fluorescent Mazda lamp is the most remarkable forward step in the important field of Industrial Lighting. "Step" is a very mild word. "Leap" would be more adequately descriptive of

this great advance in the science of artificial illumination. For there is no comparison between this new light source and any other so-called DAYLIGHT lamp on the market.

#### 6 UNIQUE FEATURES

- It supplies Daylight at an efficiency never yet approached by any other practical artificial source of illumination.
- It gives several times more light than any other lamp of the same wattage.
- It climinates wastage of wattage by doing away with the need of filtering out excess red and yellow light.
- It is 50% cooler than any other lamp giving the same amount of light - a feature that effects savings when used in air-conditioned interiors. It can be handled when lighted without the slightest discomfort.

Fluorescent Mazda lamps are of the electric discharge type, employing Mercury Vapor as the medium for sustaining the arc. A large amount of fairly short wave ultra-violet invisible radiation is produced which, in turn, is transformed into longer wave length visible radiation by It has a low surface brightness—no glare.

And the even diffusion of its so excellent that you will not realize there is as much light as there is.

Its light permits of unparalleled efficiency in color matching and discrimination.

(Note: Fluorescent Mazda lamps are also available in red, gold, pink, blue, green and white. The White tube will supply Mazda color quality illumination.)

means of fluorescent powder applied to the inner surface of the glass tube.

The remarkable characteristics of Fluorescent Mazda lamps and their exceptionally high efficiency make them especially desirable for a host of applications in the industrial field.



## FLUORESCENT MAZDA LAMP CHARACTERISTICS

	18" T-8	18" T-12	24" T-12	36" T-8	48" T-12
Nominal Lamp Watts	15	15	20	30	40
Nominal Lamp Amps.	.31	.34	.36	.35	.42
Nominal Lamp Volts	55	47	60	102	108
Nominal Line Volts	110-120	110-120	110-120	220-240	220-240
Approximate Lumens/Watt					
Warm White	30	30	32	35	35
Daylight	30	30	32	35	35
Blue	18	18	19	21	*****
Green	60	60	65	70	*****
Pink	20	20	22	24	*****
Gold	18	18	19	21	*****
Red	3	3	3	3	*****
Overall Lamp Length	17 35 "	17 35 "	$23\frac{25}{32}''$	35 35 "	47 35 "
Diameter	1"	1 1/2 "	1 ½ "	1 "	1 ½ "
Bulb	T-8	T-12	T-12	T-8	T-12
Base (Cap)	Special	Special	Special	Special	Special
Land (out) minutes	2-Pin	2-Pin	2-Pin	2-Pin	2-Pin
Life (Hours)	1500	1500	1500	1500	1500

#### CIRCUIT VOLTAGE

Fluorescent Mazda lamps are designed primarily for operation on AC circuits. Special auxiliary operating equipment (see below) is required — one for each lamp. The two 15-watt lamps and the 20-watt lamp with suitable auxiliary equipment can be operated from a standard voltage circuit of 110-120 volts. The 30-watt T-8 and 40-watt T-12 lamps with auxiliary equipment operate on 220-240 volt AC circuits. Minor fluctuations in line voltage cause less variation in light output of Fluorescent Mazda lamps than in incandescent lamps — although a 10% drop in line voltage

may cause unsatisfactory starting.

Fluorescent Mazda lamps may also be operated on DC circuits by the addition of the proper resistor, wired in series with the auxiliary to effectively ballast the lamp current. When so operated, this involves a higher auxiliary loss.

Fluorescent Mazda lamps are sensitive to temperature changes. They are best at temperatures between 60-90 degrees Fahrenheit. Temperatures as low as freezing or as high as 125 degrees Fahrenheit reduce light output and cause starting difficulties.

### AUXILIARY OPERATING EQUIPMENT

(For 60 cycle AC circuits only)



Thermal and Magnetic types of regulating mechanism for controlling the starting and operation of the lamps are available. With the Magnetic switch type of auxiliary, practically instantaneous starting and re-starting of lamp is assured. With the Thermal type, there is a slight delay of from two to five seconds. The auxiliary for each size of Fluorescent Mazda lamp is given in the table below. (Ivanhoe 15, 20 and 30 watt Fluorescent fixtures are supplied standard with Thermal type auxiliaries. The 40-watt fixture takes magnetic type auxiliary, only.)

#### THERMAL SWITCH TYPE AUXILIARIES (for 60 cycle AC circuits)

							Approx.	*Approx.	Nominal
Catalog No.				Size In	nches	Wt. Lbs.	Watts Loss	Power Factor	Circuit Voltage
58G512	(For	15-watt	lamn)	1 3 x 1 3	$4 \times 7^{3}$	1 1/4	6	0.5	110 - 120
				1 3 x 1 3		1 1/4	6	0.5	110-120
58G513		20-watt				2	12	0.5	220-240
58G514	(For	30-watt	lamp)	1 3 x 1 3		4			
58G519	(For	30-watt	lamp)	$1_{16}^{3} \times 13$	$4 \times 9 \frac{13}{16}$	2	12	0.5	208
000020	(			CWITCH TYP	E ALIVII	TADIES (for 6	O avala AC	cinquita)	
		MAC	NEIL	SWITCH TYP			o cycle AC		
58G612	(For	15-watt	lamp)	1 3 X 2 1/4	x 10 5/8	2 1/4	3.0	0.5	110 - 120
	(	20-watt		1 9 x 2 1/4	x 10 5%	2 1/4	3.0	0.5	110-120
58G613						2 3/8	8.0	0.5	220-240
58G614		30-watt		$1\frac{9}{32} \times 2\frac{1}{4}$					
58G619	(For	30-watt	lamp)	$1\frac{9}{32} \times 2\frac{1}{4}$	x 10 %	2 3/8	8.0	0.5	208
58G635		40-watt		1 9 x 2 1/4	$\times 17^{\frac{7}{16}}$	4 (est.)	6.0	0.5	220-240
990099	(1.01	TO-Watt	ittiip)	- 32 /**		lamna on mor	ing of lam	ne ava availat	la Complete

\*Power factor correction equipments (capacitors) for single lamps or groups of lamps are available. Complete data covering them can be obtained on request.

NOTE: 50 cycle operating equipment is also available. Data covering it supplied on request,



For color matching and discrimination.

## IVANHOE FLUORESCENT

## THE FULL BENEFITS

The application of Fluorescent Daylight Mazda light is dominantly in the LOCALIZED lighting field. For very fine assembly and color discrimination and matching, it is without an equal. Its daylight color, its improved diffusion of light, illuminate minute details with startling distinction - and without the slightest glare. For very close work, the virtual absence of radiant heat in Fluorescent Mazda light is a vitally important feature. Experiments prove that intensities of several hundred footcandles of Fluorescent Mazda light can be most advantageously used without the least discomfort in inspection operations and intricate assembly work. Innumerable industrial operations have shown that one or more of the outstanding features of this revolutionary new light - high efficiency from low wattage sources - low surface brightness - virtual absence of radiant heat - daylight color - improved even diffusion of light small compactness — are tremendous improvements over all other available forms of localized industrial lighting.

The distinguishing character of localized lighting is, almost invariably, that the equipment will be located with strict reference to the particular work to be done. When, however, the working areas are closely spaced, the proper selection of equipment and mounting heights will often provide light suitable for general illumination.

Miller-Ivanhoe Fluorescent fixtures were designed with all of the foregoing in mind. By Miller engineers who have behind them the Miller record of nearly 100 years of manufacturing ability and whose work must qualify for the ironclad Miller guarantee of QUALITY AND COMPLETELY SATISFACTORY SERVICE. MILLER has always stood for engineered lighting — not merely for the routine making and distribution of good lighting equipment. Its highly efficient lighting engineering staff collaborates with the engineering departments of the great lamp manufacturers of America, studying closely the development of new lamps in the laboratory





# FIXTURES BRING TO INDUSTRY

## OF FLUORESCENT MAZDA LIGHT

stage so as to be ready with suitable equipment for their effective application when perfected.

There are Miller-Ivanhoe Fluorescent fixtures for use where the operator must be very close to the lamp and to his work. And, to fill the need for higher intensities or greater coverage or higher mounting heights above the working level, there are fixtures with varying degrees of concentration and two or more lamps. Single, double and triple lamp fixtures. In sizes utilizing 15, 20, 30 and 40-watt Fluorescent Mazda lamps and with either a concentrating or medium spread distribution. All of these fixtures are rigid, compact, sturdy assemblies. The auxiliary operating unit is built into the reflector channel, the bottom of which is completely closed and access is easily gained to it by removing the inner reflector. Junction box at top of each fixture simplifies making wiring connections to the line. The inside reflecting surface of all Ivanhoe Fluorescent reflectors is of polished non-tarnishing ALZAK aluminum to provide the most positive control of light. In the double and triple lamp fixtures, each lamp has an individual reflector to insure proper and efficient distribution of light - light from one tube will not pass through an adjacent tube.

On the following pages are shown performance curves and data which will be of practical help in the application of Ivanhoe Fluorescent fixtures to the many purposes for which they are best suited. Note that the light distribution is not symmetrical around the vertical center line of the unit — that is, that a rectangular spread of light is obtained. This fact should be borne in mind when considering the direction of hanging — lengthwise or crosswise. A careful study of the performance data will indicate the proper arrangement.







Sec. 10, Page 6, April 1, 1939

## IVANHOE FLUORESCENT

## SIMPLIFY

#### Junction Box

Typical of the thoroughness with which MILLER thought covers locking it into the desired alignment.



## FIXTURES ARE CONSTRUCTED

## INSTALLATION AND MAINTENANCE

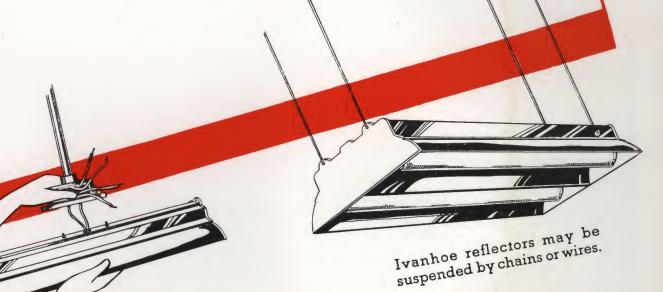
## Facilitates Wiring

Laboratories. (They are available, also, for DC operation, specially wired with resistors, but do not yet carry the approval of the Underwriters' Laboratories as inspection tests have not been completed). One and two light units are equipped with convenient toggle switch—all units have standard ½ inch pipe tapping in top center for conduit mounting or for attachment of bracket arms, swivels, etc., for a choice of mountings (¾ inch tapping supplied on request at no additional charge)—and eyelets at top of end castings, which make it possible to suspend unit from wire or chain supports. Units desired for mounting with wire or chain supports will be supplied with 6 or 9 ft. cord and plug at slight additional charge (length desired to be specified on orders).

The Alzak Aluminum finish that is applied to all Ivanhoe Fluorescent reflectors resists grease, dirt, abrasion and corrosion from salt water and moisture. Maintenance costs are lowered for the non-porous surface is easily cleaned with soap and water. With this finish, the reflection factor is permanently high — second only to silver. It will not wear off, tarnish, or stain.

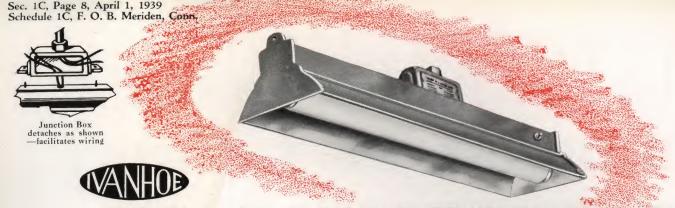


Ivanhoe reflectors mount readily to conduit.



Junction box may be connected directly to conduit where desired, and the reflector may then be attached without rotation—especially tached without rotation—especially desirable in close-to-wall locations.

WANHOD



## FLUORESCENT SINGLE TUBE REFLECTOR

CONCENTRATING TYPE

Specially desirable for spot work application where the operator must be very close to the lamp and to his work — assembly of fine parts, color matching and discrimination and other areas of close work where accuracy is important. May be mounted extremely close to working plane. Can also be mounted in a line along work benches at heights as desired. Inner reflector with surface of polished Alzak aluminum provides positive control of light. At each end of the chromium plated steel outer channel are cast anodized aluminum plates which hold the channel and inner reflector rigidly, preventing distortion and carry the

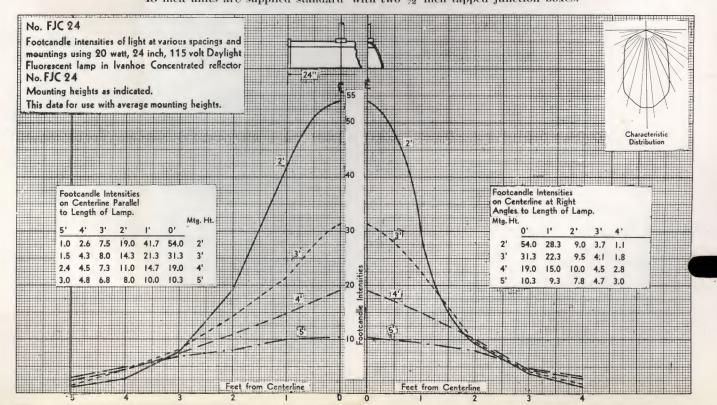
sockets in a fixed position. Operating auxiliary is housed in channel and access to it is gained by removing inner reflector. Equipped with toggle switch. 1/2 inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Eyelets at top of end castings make it possible to suspend unit from wire or chain supports. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

						D	IMENSION	S-INCHE			
Catalog	Retail	Delivery	Lamp	Line	Type			S	Suspensio	n ST	D. PKG.
Number	Price	Code	Watts	Voltage	Auxiliary	Length	Width	Depth	Fitting	Qty.	Wt. Lbs.
FJC 18	\$11.00	В	15	110-120	Thermal	18 3/8	5	4	1/2	1	7
<b>FJC 24</b>	11.90	В	20	110-120	Thermal	24 3/8	5	4	1/2	1	8
<b>FJC 36</b>	14.90	В	30	220-240	Thermal	36 3/8	5	4	1/2	1	11
FJC 48	21.00	В	40	220-240	Magnetic	48 3/8	5	4	* 1/2	1	16

Prices include built-in operating auxiliary but not lamps.

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe — ¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ½ inch tapped junction boxes.



## FLUORESCENT DOUBLE TUBE REFLECTOR

CONCENTRATING TYPE

Like the single tube concentrating reflector, this unit is ideal for spot work application. In that it takes two lamps instead of one, it provides greater quantities of high intensity concentrated light for fine assembly operations and color matching and discrimination. Each lamp has an individual reflector to insure proper distribution of light. Can be mounted extremely close to working plane or in a line along work benches at heights as desired. Inner reflectors with surface of polished Alzak aluminum provide positive control of light. At each end of the chromium plated steel outer channel are cast anodized aluminum plates which hold the channel and inner reflectors rigidly, preventing

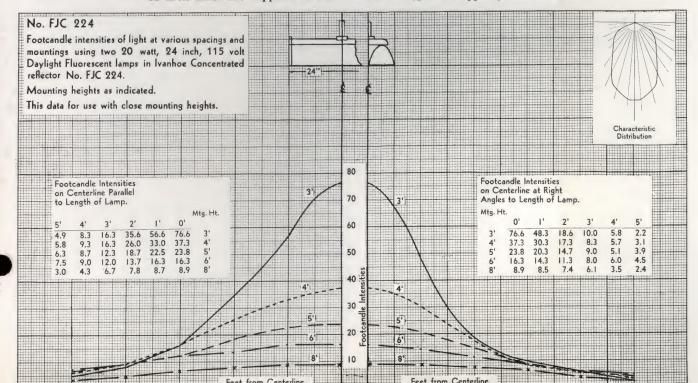
distortion and carry the sockets in a fixed position. Operating auxiliaries are housed in channel (one for each lamp) and access to them is gained by removing inner reflectors. Equipped with toggle switch. ½ inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Eyelets at top of end castings make it possible to suspend unit from wire or chain supports. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

						DI	IMENSION	S-INCHE	cs		
Catalog Number	Retail Price	Delivery Code	Lamp Watts	Line Voltage	Type Auxiliaries	Length	Width	Depth	Suspensio Fitting	n ST Qty.	D. PKG. Wt. Lbs.
FJC 218	\$19.50	В	2-15	110-120	Thermal	18 3/8	101/4	3 15	1/2	1	$12\frac{1}{2}$
<b>FJC 224</b>	21.00	В	2-20	110-120	Thermal	$24 \frac{3}{8}$	101/4	3 15	1/2	1	$14\frac{1}{2}$
FJC 236	26.50	В	2 - 30	220-240	Thermal	36 %	10 1/4	$3\frac{15}{16}$	1/2	1	$20\frac{1}{2}$
FJC 248	39.00	В	2 - 40	220-240	Magnetic	48 3/8	10 1/4	$3\frac{15}{6}$	* 1/2	1	29

Prices include built-in operating auxiliaries but not lamps.

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe—¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ½ inch tapped junction boxes.





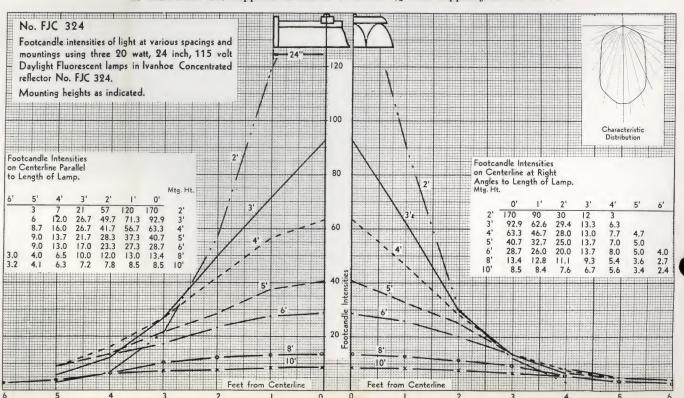
This 3-lamp unit is designed for 4 important uses — (1) to meet the requirements for higher intensities than can be obtained from the use of a 2-lamp unit; (2) to provide the proper intensity of illumination where a higher mounting is required; (3) to provide a greater coverage of light; (4) to meet the necessity of entirely eliminating stroboscopic effect which is accomplished by attaching each of the 3 lamps to the separate phases of a 3-phase circuit. Each lamp has an individual reflector with inner surface of polished Alzak Aluminum which provides positive control and proper distribution of light. At each end of the chromium-plated steel outer channel are cast anodized

aluminum plates which hold the channel and inner reflectors rigidly, preventing distortion, and insuring the fixed position of sockets. Operating auxiliaries are housed in channel (one for each lamp) and access to them is gained by removing inner reflectors. ½ inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Eyelets at top of end castings make it possible to suspend unit from wire or chain supports. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

							TATEMANDION						
Catalog	Retail	Delivery	Lamp	Line	Type			5	Suspensio	n ST	D. PKG.		
Number	Price	Code	Watts	Voltage	Auxiliaries	Length	Width	Depth	Fitting	Qty.	Wt. Lbs.		
FJC 318	\$32.00	В	3-15	110-120	Thermal	18 3/8	15 1/2	3 15	1/2	1	13		
FJC 324	34.00	В	3-20	110-120	Thermal	24 3/8	15 1/2	3 15	1/2	1 ,	15		
FJC 336	39.00	В	3-30	220-240	Thermal	36 3/8	15 1/2	3 15	1/2	1	21		
FJC 348	57.50	В	3-40	220-240	Magnetic	48 3/8	15 1/2	3 15	* 1/2	1	46		
	Prices include built-in operating auxiliaries but not lamps.												

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe—¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ½ inch tapped junction boxes.



## FLUORESCENT SINGLE TUBE REFLECTOR

FLOOD TYPE

Where a broad coverage of high intensity localized light is desired this unit is ideal. Provides a medium spread distribution of light. Highly efficient for a wide range of assembly and inspection operations. May be used in a line along an entire work bench in areas where operators work on both sides. Inner reflector with surface of polished Alzak aluminum provides positive control of light. At each end of the chromium plated steel outer channel are cast anodized aluminum plates which hold the channel and inner reflector rigidly, preventing distortion and carry the

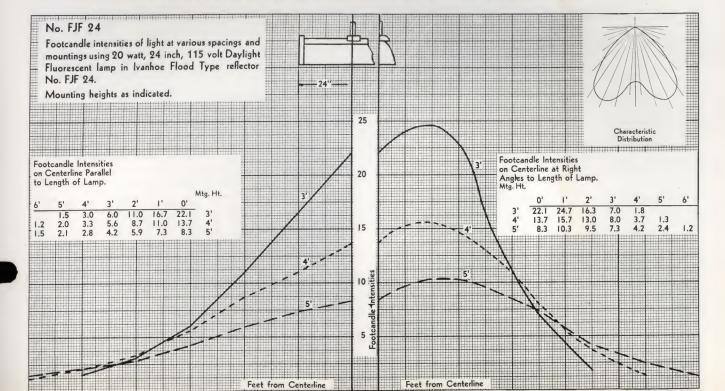
sockets in a fixed position. Operating auxiliary is housed in channel and access to it is gained by removing inner reflector. Equipped with toggle switch. ½ inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Eyelets at top of end castings make it possible to suspend unit from wire or chain supports. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

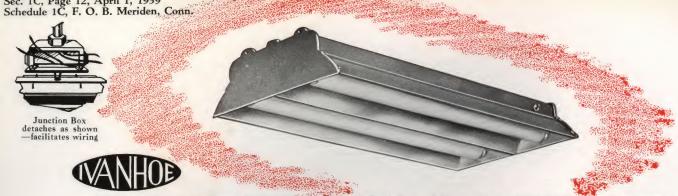
						DI	MENSION				
Catalog	Retail	Delivery	Lamp	Line	Type			S	uspensio	n ST	D. PKG.
Number	Price	Code	Watts	Voltage	Auxiliary	Length	Width	Depth	Fitting	Qty.	Wt. Lbs.
FJF 18	\$11.00	В	15	110-120	Thermal	18 3/8	4 5/8	5	1/2	1	7
<b>FJF 24</b>	11.90	В	20	110-120	Thermal	24 3/8	4 5/8	5	1/2	1	8
<b>FJF 36</b>	14.90	В	3.0	220-240	Thermal	36 %	4 5/8	5	1/2	1	11
FJF 48	21.00	В	40	220-240	Magnetic	48 3/8	4 5/8	5	* 1/2	1	16

Prices include built-in operating auxiliary but not lamps.

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe—¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ½ inch tapped junction boxes.





## FLUORESCENT DOUBLE TUBE REFLECTOR

FLOOD TYPE

Fills the need for an abundance of high intensity light over a wide working area. At proper mounting heights it even provides light suitable for general illumination. Equipped for use with two lamps, it gives a greater quantity of efficient light ideal for innumerable assembly and inspection operations. Medium spread distribution. Each lamp has an individual reflector to insure proper distribution of light. Inner reflectors with surface of polished Alzak aluminum provide positive control of light. At each end of the chromium plated steel outer channel are cast anodized aluminum plates which hold the channel and inner reflectors rigidly, prevent-

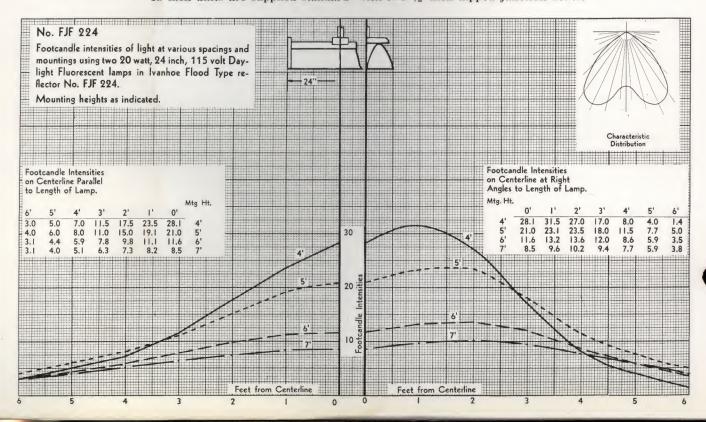
ing distortion and carry the sockets in a fixed position. Operating auxiliaries are housed in channel (one for each lamp) and access to them is gained by removing inner reflectors. Equipped with toggle switch. ½ inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Eyelets at top of end castings make it possible to suspend unit from wire or chain supports. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

						Di	IMENSION	IS-INCHI	IS		
Catalog	Retail	Delivery	Lamp	Line	Type			8	Suspensio	n ST	D. PKG.
Number	Price	Code	Watts	Voltage	Auxiliaries	Length	Width	Depth	Fitting	Qty.	Wt. Lbs.
FJF 218	\$19.50	В	2-15	110 - 120	Thermal	$18\frac{3}{8}$	10	5 1/8	1/2	1	12 1/2
FJF 224	21.00	В	2-20	110-120	Thermal	24 3/8	10	5 1/8	1/2	1	14 1/2
FJF 236	26.50	В	2-30	220-240	Thermal	36 3/8	10	5 1/8	1/2	1	201/2
FJF 248	39.00	В	2-40	220-240	Magnetic	48 3/8	10	5 1/8	* 1/2	1	29

Prices include built-in operating auxiliaries but not lamps.

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe — ¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ½ inch tapped junction boxes.



## FLUORESCENT TRIPLE TUBE REFLECTOR

FLOOD TYPE

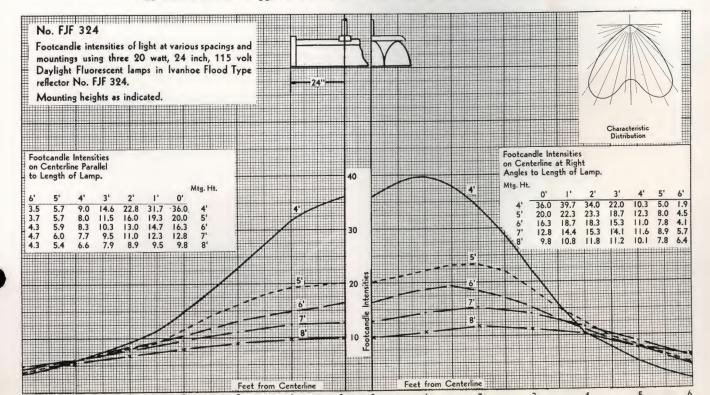
This unit is designed for use where higher intensities of illumination over a wide working area are required than can be provided by a 2-lamp unit. ALSO—it provides the required intensity where a higher mounting is desirable—provides a greater coverage of light—and entirely eliminates stroboscopic effect if each of the 3 lamps in the unit is attached on a separate phase of a 3-phase circuit. Each lamp has its individual reflector, with inner surface of polished Alzak Aluminum, insuring positive control and proper distribution of light. At each end of the chromium-plated

steel outer channel are cast anodized aluminum plates which hold the channel and inner reflectors rigidly, preventing distortion, and insuring fixed position of sockets. Operating auxiliaries are housed in channel (one for each lamp) and access to them is gained by removing inner reflectors. ½ inch pipe tapping in top of unit provides for conduit mounting or for the attachment of bracket arms, swivels, etc. Junction box facilitates making wiring connections to the line. Standard for operation on 60 cycle AC circuits. Can be supplied wired special with resistor for DC operation.

Prices include built-in operating auxiliaries but not lamps.

Fixtures for AC circuits only are approved by Underwriters' Laboratories. When ordered for DC operation add DC after number (prices on application). Tapped standard for ½ inch pipe—¾ inch on request at no additional charge.

\*48 inch units are supplied standard with two ¼ inch tapped junction boxes.



## ACCESSORY EQUIPMENT FOR USE WITH WANDO FLUORESCENT FIXTURES

Catalog	Retail	Delivery			D. PKG.			
Number	Price	Code	Description	Diam.	Depth	Fitter	Qty.	Wt. Lbs.
AC 941	\$ .30	В	½ Tapped	4 1/4	1 1/4	Outlet Box	10	7
AC 1041	.65	В	½ Tapped	4 1/4	1 1/2	Outlet Box	10	7
ACH 1314	1.75	В	½ Threaded	5 1/4	20	3/8 Stud	10	20
ACH 1362	1.50	В	Swivel			½ male x½ male	10	6
ACH 1363	1.50	В	Swivel			½ malex ¾ female	10	6
ACH 1371	5.75	В	Bench Bracket	4 1/2	19 3/4	½ male	5	15
ACH 1390	1.80	В	½ Threaded	5 1/4	20	3/8 Stud	10	20

ACH 1371

#### PENDANT HANGER

No. ACH 1314 has swivel stem. May be attached to Ivanhoe Fluorescent fixtures to provide a suitable type of pendant hanger. Has  $\frac{3}{8}$ " adjustable hickey, threaded lock ring to permit canopy to be lowered,  $\frac{5}{8}$ " brass tubing, 18 inches long which terminates with a  $\frac{1}{2}$ " male threaded bushing for attaching reflectors. Finished in Nuvon Chrome.

No. ACH 1390 same as above but with rigid cadmium plated stem and Nuvon finished slip canopy.

#### **OUTLET BOX COVER ALIGNER**

AC 941 consists of a cast iron ball, suspended between two plates. The ball moves freely and will allow the fixture to hang plumb when boxes are at an angle up to 45°. The use of this device also improves the efficiency of the installation and protects the reflector or fittings from jars or bumps from poles, ladders, or similar objects. Designed for use on standard 3½ or 4 inch boxes. The ball is tapped for ½ inch pipe and

has two slots to permit it to be held with a wrench while conduit or pipe is being screwed in place. Standard finish: galvanized iron.

#### SHOCK ABSORBING OUTLET BOX COVER ALIGNER

The AC 1041 aligner is identical with the AC 941 with the exception that it is of the shock absorbing type. A heavy spring in this device floats the reflector or fitting protecting the equipment from shocks or jars.

#### SINGLE-PLANE SWIVEL

By the use of this single-plane swivel, it is possible to tilt Fluorescent fixtures to angles as desired. It may be attached to  $\frac{1}{2}$ " pipe stems or to  $\frac{3}{8}$ " pipe brackets over work bench. Comes in two types — ACH 1362 has  $\frac{1}{2}$ " x  $\frac{1}{2}$ " male fittings and ACH 1363 has  $\frac{1}{2}$ " male x  $\frac{3}{8}$ " female fittings.

#### BENCH BRACKET

No. ACH 1371 provides a convenient means of mounting Ivanhoe Fluorescent fixtures to work benches. Arm is adjustable at base and at top swivel which has  $\frac{1}{2}$  inch male fitting. Extreme height  $\frac{193}{4}$  inches. Base  $\frac{41}{2}$  inches in diameter. Comes complete with wood screws for mounting. Finished in Nuvon.



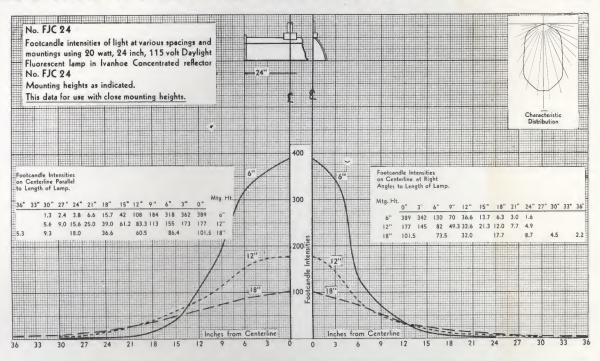


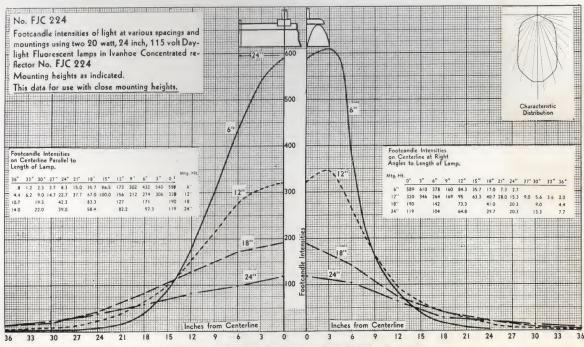


ACH 1363

## LIGHT DISTRIBUTION FOR LOCAL LIGHTING APPLICATIONS REQUIRING EXTREMELY HIGH INTENSITIES

## IVANHOE CONCENTRATING FLUORESCENT FIXTURES MOUNTED 2 FEET OR LESS ABOVE WORKING PLANE

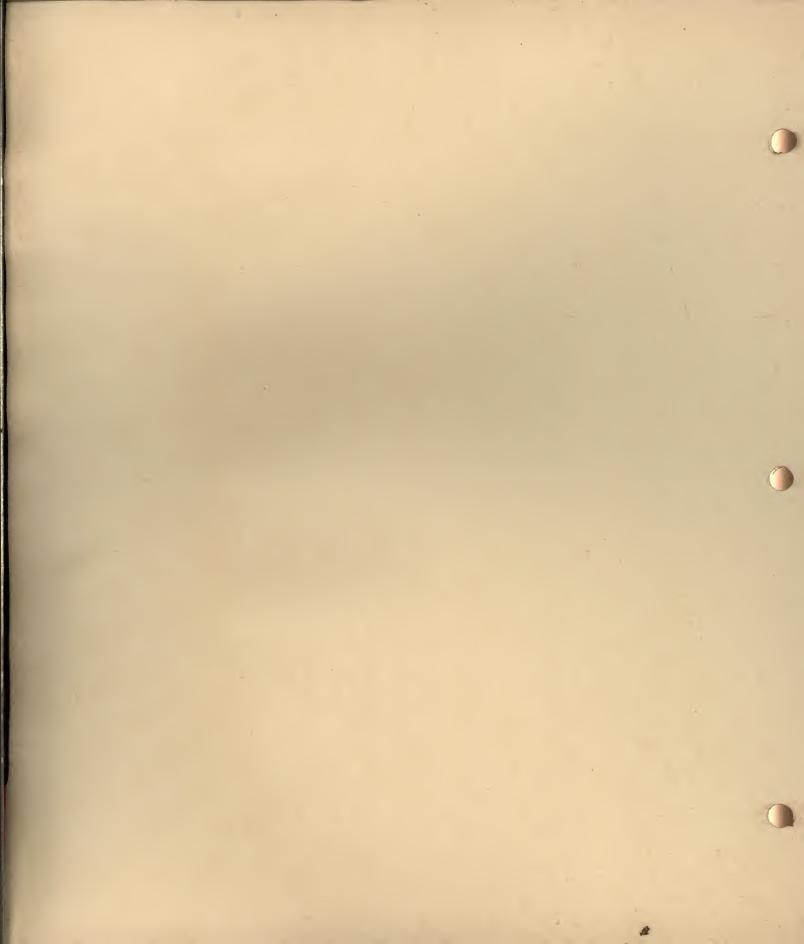




#### THE MILLER COMPANY

MERIDEN, CONN.

New York — 14 East 38th Street Pioneers in Good Lighting Since 1844







## FIXTURES

602 COMMERCIAL LIGHTING

Catalog Section 2A

## THE MILLER COMPANY

Pioneers in Good Lighting Since 1844

MERIDEN, CONNECTICUT

NEW YORK-14 EAST 38TH STREET

IGHT IS JUST AS IMPORTANT to happiness, success and comfort as fresh air and comfortable room temperatures; yet light, uncontrolled, can be more detrimental and far more insidious in its effects than uncontrolled heat or cold. According to Professor Bristow Adams, eyes burn 25% of all the energy expended by the body. When tired or defective, eyes demand more than their share, the normal nerve supply of the other organs is lessened and the result is headache or other nervous disorders.

Not many years ago, before the true relationship between proper illumination and physical well-being was realized, little attention was given to the distribution of light provided by the fixture. Ornamentation and fancy design seemed to be the first consideration with little thought as to the actual lighting results produced. However, today, with the realization of the tremendous importance of good illumination, fixtures are carefully and skillfully constructed to provide better seeing conditions and, in addition, are furnished in designs that are in complete harmony with current style trends.

When selecting lighting fixtures it should be made essential that they meet these four requirements: (1) Provide an abundance of light; (2) Provide glareless light; (3) Provide properly-diffused light that relieves harsh contrasts; (4) Provide a widely-distributed light so that it will be directed where it is needed.

The record of the Miller Company in contributing to the progress of better lighting has been particularly significant. Through nearly one hundred years of manufacturing experience, the Miller Company always has endeavored to incorporate in its products all of the latest developments known to the lighting field. With its complete manufacturing facilities — electrical testing laboratories, foundries, rolling mills, electro-plating and porcelain-enameling plants, Alzak aluminum-processing, metal-stamping, spinning and fabricating plants — every step in the manufacture of lighting equipment is under its own supervision, which is your assurance of a superior product. Every Ivanhoe lighting fixture is constructed to give correct balance of all factors to meet the demands of good lighting and conservation of eyesight.

## IVANHOE FIXTURE DELIVERY SCHEDULE

Shipments of normal requirements of items designated A may be expected within 48 hours after receipt of order at factory; of items designated B within one week; of items designated C within two weeks. Items designated D are not carried in stock, but are made up after orders are received. Average expectancy of shipment within 3 to 4 weeks. This schedule applies only to regular catalog material. Variations and special requirements are considered as "special orders," and are handled as quickly as the special requirements may permit.



## GOOD ILLUMINATION IS IMPORTANT

#### For Stores

Effective merchandising and good lighting go hand in hand. The progressiveness, the service and even the quality of the merchandise are judged quite largely by the general atmosphere of the store. Light properly applied will radiate cheerfulness . . . create a satisfactory and lasting impression that will affect the personnel of the entire store as well as customers and potential buyers. Good lighting makes possible the utilization of wasted space . . . stimulates the "buying" mood . . . provides the impetus for profitable selling.

#### For Offices

Increased efficiency...good morale...greater accuracy are all attributes of good lighting. It attracts desirable tenants...pays for itself in a hundred ways. When selecting the equipment it is essential to know that it is scientifically designed. Miller's complete manufacturing facilities and years of experience are your assurance of a superior product.

### For Hospitals

In no other place is it more important to have proper illumination than in the hospital. Here . . . where every bit of physical energy must be conserved . . . the right kind and the right amount of light is of utmost importance. With the realization of its effect on practically every part of the human body, good lighting has become one of the first considerations in modern hospitals.

#### For Schools

Concentration . . . aptitude . . . attention are but a few of the benefits of good schoolroom lighting. However, as a result of the advancements in the lighting field, and through new standards that have been set up, it has been found that the average lighting installation of five or ten years ago is far from adequate today. Correct illumination does not necessarily mean more light, but rather light that is properly controlled.

#### For Public Buildings

In public buildings, as in any other location, proper illumination provides for efficiency, cheerfulness and a pleasant atmosphere. The Miller Company, with its years of experience in the manufacture of lighting equipment, always is ready to help plan a lighting installation.

#### For Restaurants

In the restaurant, light properly applied can create a fresh, invigorating atmosphere that is so essential to profitable and progressive merchandising. The restaurant is judged first by its general appearance, and most important in creating a favorable and lasting impression is the use of proper illumination.

### For Drafting Rooms

In the drafting room, where satisfactory seeing conditions are a prerequisite to competent work, the importance of good lighting has been realized. Here, where accuracy is of paramount importance, the eye and the whole body, in fact, experience unnecessary strain unless the illumination is of the proper type.

#### For Banks

In the modern bank, as in many other institutions, the true importance of proper illumination is being realized today as never before. Notwithstanding the fact that the effectiveness of the lighting system is measured by how well it meets the seeing conditions, the effects that it produces from a psychological standpoint are of no less importance. Proper light actually can change the atmosphere . . . inspire confidence and radiate alertness.

#### For Churches

Where close vision is not required, there are other factors that deserve careful consideration and thoughtful analysis. For instance, the glare from an improperly-shielded lamp, or one that is positioned incorrectly is exceedingly annoying to a church audience and, above all else, is not conducive to physical comfort or continuous concentration. It is important to provide the right kind and right amount of light to effect correct seeing conditions in church edifices.

#### For Theatre Lobbies

In the theatre lobby, where all the furnishings are designed to create the feeling of luxury and spaciousness, the lighting must be in complete harmony with its surroundings. Ivanhoe fixtures provide just the right type of light for each application and embody the latest developments in the science of illumination.

Sec. 2A—Page 4—January 2, 1939

## TYPICAL IVANHOE INSTALLATIONS



Sodus Point School, Sodus Point, N. Y.

(Invanhoe Mayfair fixtures)



Kroehler Display Room, Western Furniture Exchange Bldg., San Francisco, Cal.

(Ivanhoe Helmet fixtures)

## TYPICAL IVANHOE INSTALLATIONS



Railway Express Agency, New York, N. Y. (Ivanhoe Diamond fixtures)



Furness-Withey Steam Ship Lines, Baltimore, Md. (Ivanhoe Indirecto fixtures)

## TVANHOE

## APPLICATION OF IVANHOE ILLUMINATION DATA

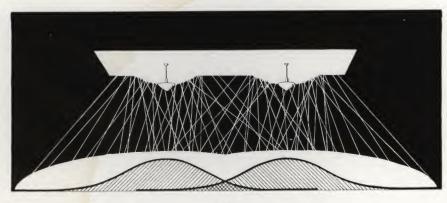


Fig. 1

The following information is presented to indicate the accurate methods by which illumination data (included on pages with various Ivanhoe fixtures) are used to determine the proper spacing and mounting of Ivanhoe fixtures and the actual performance under specified conditions.

Fig. 1, indicating how light is distributed by the indirect type of lighting fixture, shows how the light is diffused in all directions. The intensity of illumination is greatest directly beneath the unit and from this point recedes in all directions. The result might be considered as a mound of illumination with the lighting fixture at its center. If this mound were cut in half as indicated by the shaded portion of Fig. 1, the resulting curve is the shape and form of the regular illumination curve.

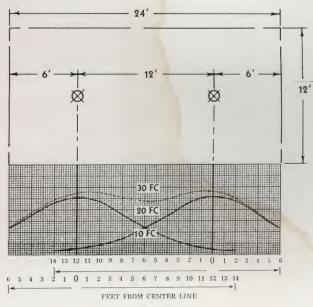


Fig. 3

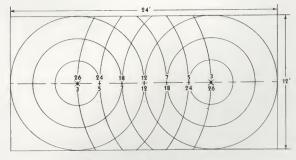


Fig. 2

YFig. 2 is really a bird's-eye view of Fig. 1, showing how the light from both units overlaps. For example, the illumination four feet from the center of either fixture totals 25 footcandles — 18 footcandles of light coming from the nearest fixture and 7 footcandles come from the fixture farthest away.

While this information is valuable as an explanation of the curve, its more useful purpose is indicated by Fig. 3. This represents a typical layout of a room where indirect lighting is to be used. After the selection of the type of fixture has been made, the illumination curve can be used for determining the most desirable spacing.

For example, the fixture chosen for this layout produces 26 footcandles directly under the fixture. At a point 6 feet from the fixture, the illumination is 12 footcandles. This indicates that two such fixtures can be spaced 12 feet apart and produce uniform illumination, since each fixture will produce 12 footcandles at the center point, making a total of 24 footcandles of illumination.

The illumination curve also shows that the lighting fixture should be placed from 5 to 7 feet from the side wall.

## APPLICATION OF IVANHOE ILLUMINATION DATA

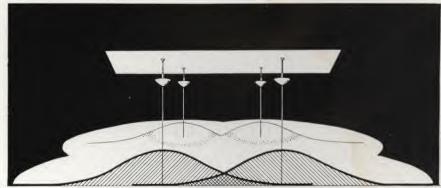


Fig. 4

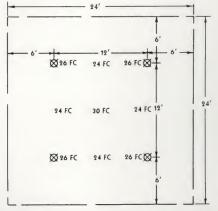


Fig. 5

Fig. 4 shows an installation where four fixtures are to be used instead of two, resulting in a build-up of illumination from more points. An example of the multiple layout of four fixtures is shown in Fig. 5.

Each fixture can be treated individually by using the illumination curve supplied for it and at a mid-point between the four fixtures; each is supplying 7½ footcandles, resulting in a total of 30 footcandles.

Thus, we see that the illumination curve serves two purposes: first, in determining the proper spacing and mounting of the lighting fixture to meet specific requirements; secondly, in determining the actual performance of the fixture under the specified conditions.

Note: Walls were not taken into consideration in the above calculations. They may increase levels of illumination from 15 to 20%.



The Miller Company Laboratory where illumination data sheets are compiled. The 15 x 30 foot test ceiling may be raised or lowered as required.



## RECOMMENDED STANDARDS OF ILLUMINATION

## For Stores, Commercial and Public Interiors

(These foot-candle values represent order of magnitude rather than exact levels of illumination)

Foot-Candles	Foot-Candles	Foot-Candles	Foot-Candles
Armories - Drill Sheds and	Hospitals:	Office Buildings, (continued)	Service Space, continued:
Exhibition Halls 10	Corridors2	Drafting	Elevators—Freight and Pas-
	Laboratories 20	Prolonged Close Work—	senger 10
Art Galleries:	Lobby & Reception Room 5	Art Drafting and De-	Halls and Stairways 5
General 10 On Paintings B*	Operating Room	signing in Detail C*	Storage5
	General 20	Rough Drawing and	Toilets and Wash Rooms 5
Auditoriums5	Operating Table	Sketching	Show Cases B*
Automobile Show Rooms 20	Major Operations1000	Filing and Index References 20	
	Minor Operations200	Lobby	Show Windows:
Banks:	Private Rooms (with local	Reception Rooms 10	Large Cities-
Lobby 20	illumination)	Stenographic Work	Brightly Lighted Districts 200
Cages B*	Wards (with local illumin-	Prolonged Reading Short-	Secondary Business Loca-
	ation) 20	hand Notes C*	Neighborhand Change
Barber Shops and Beauty	TTI-	Vault 10	Neighborhood Stores 50
Parlors 20	Hotels:		Medium Cities— Brightly Lighted District 100
Churches:	Lobby	Post Office:	Neighborhood Stores 50
Auditoriums5	Kitchen 20	Lobby 10	Small Cities and Towns 50
Sunday School Rooms 10	Guest Rooms 10	Sorting, Mailing, etc 20	Lighting to Reduce Day-
Pulpit or Rostrum 20	Corridors 2	Storage 10	light Window Reflec-
Club and Lodge Rooms:	Writing Rooms 20	Offices-Private & General 20	tions200-1000
Lounge and Reading Rooms 20		File Room and Vault 10	
Auditoriums5	Library:	Corridors and Stairways 2	Special Displays Inside Store:
	Reading Room 20	D ( 1 100	Light Colored C*
Court Rooms 10	Stack Room 10	Professional Offices:	Medium Colored B*
Dance Halls5		Waiting Rooms 10	Dark Colored A*
Danata	Moving Picture Theatre:	Consultation Rooms 20	Stores:
Depots: Waiting Rooms 10	During Intermission 5	General Offices	Large Cities-
Ticket Offices—	During Pictures 0.1	Dental Chairs and Doctors'	Brightly Lighted Districts 20
General10		Examination Rooms A*	Secondary Business Loca-
Ticket Rack and Coun-	Museums:	Restaurants, Lunch Rooms	tions 20
ters B*	General 10	and Cafeterias:	Neighborhood Stores 15
Rest Rooms, Smoking	Special Displays B*	Dining Areas 10	Medium Cities-
Rooms 10	Night Clubs and Page 5	Food Displays C*	Brightly Lighted Districts 20
Baggage Checking Office 10	Night Clubs and Bars 5		Neighborhood Stores 15
Storage	Office Buildings	Schools:	Small Cities and Towns 15
Concourse	Office Buildings: Bookkeeping, Typing and	Auditoriums and Lecture	Telephone Exchanges:
Platforms2	Accounting	Rooms	Operating Rooms
Drafting Rooms:	Business Machines—Power	General 10	Terminal Rooms
Prolonged Close Work, Art	Driven (Transcribing &	Special Exhibits C*	Cable Vaults
in Detail C*	Tabulating)—	Class and Study Rooms-	
Drafting and Designing	Calculators, Key	Desks & Blackboards 20	Theatres:
Rough Drawing and	Punch, Bookkeeping B*	Corridors and Stairways 5	Auditoriums5
Sketching 30	Conference Room	Drawing Room C* Gymnasium	Foyer
Fire Engine Houses:	General Meetings 10	Laboratories:	Lobby 15
When alarm is turned in 10	Office Activities — See	General	Transportation:
At other times 2	Desk Work	Close Work C*	Cars—
Common American	Corridors and Stairways 5	Library and Offices 20	Baggage, Day Coach,
Garages—Automobile:	Desk Work	Manual Training	Dining, Pullman 15
Storage—Dead	Intermittent Reading and	General 20	Mail—
Repair and Washing De-	Writing 20	Close Work B*	Bag Racks and Letter
partments	Prolonged Close Work,	Sewing Room B*	Cases 20
	Computing, Studying,	Sight-Saving Classes C*	Storage
Hangars—Aeroplane:	Designing, etc C*	Comico Spaces	Street Railway, Trolley Bus
Storage—Live 10	Reading Blueprints and	Service Space:	and Subway 15
Repair Department C*	Plans 30	Corridors 5	Motor Bus 10

\*Lighting recommendations for the more difficult seeing tasks, as indicated by A, B, and C in the foregoing table, are given in the following:

Group A — These seeing tasks involve (a) the discrimination of extremely fine detail under conditions of (b) extremely poor contrast, (c) for long periods of time. To meet these requirements, illumination levels above 100 foot-candles are recommended.

To provide illumination of this order a combination of at least 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

Group B — This group of visual tasks involves (a) the discrimination of fine detail under conditions of (b) a fair degree of contrast (c) for long periods of time. Illumination levels from 50 to 100 foot-candles are required.

To provide illumination of this order a combination of 10 to 20 foot-candles of general lighting plus specialized supplementary lighting is necessary. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectionable shadows.

Group C — The seeing tasks in this group involve (a) the discrimination of moderately fine detail under conditions of (b) better than average contrast (c) for intermittent periods of time. The level of illumination required is of the order of 30 to 50 foot-candles and in some instances it may be provided from a general lighting system. Oftentimes, however, it will be found more economical and yet equally satisfactory to provide from 10 to 20 foot-candles from the general system and the remainder from specialized supplementary lighting. The design and installation of the combination systems must not only provide a sufficient amount of light but also must provide the proper direction of light, diffusion, eye protection and, insofar as possible, must eliminate direct and reflected glare as well as objectional shadows.

## INSTALLATION DATA

The following tables show watts per square foot required to obtain various footcandle intensities. While the information is approximate, it is good for all practical purposes. When more accurate calculations are necessary, refer to Ivanhoe Illumination Curves.

## WITH INDIRECT OR SEMI-INDIRECT FIXTURES

\*Light Ceilings (70%), Medium Walls (40%)

Foot-Candles	Small Rooms (16 x 16 Ft.) 9 to 10 Ft. Ceilings	Medium Rooms (35 x 100 Ft.) 10 to 12 Ft. Ceilings	Large Rooms (100 x 100 Ft.) Ceiling Heights 10 Ft. or More
4 5	1.25 1.65	1.23	.78
6 8	1.85 2.50	1.37	1.16
10 12	3.10 3.70	2.28 2.72	1.94
16	4.95	3.64	3.10

\*Ivory White, White or other colors having a reflection factor of 70% or more are preferable for ceilings, and may be classified as light.

Medium colors such as Ivory, Tan, Buff, also some Greens and Grays having a reflection factor of 50% or more may be used for walls. Ample allowance has been made for windows and doors in determining the reflection factor of 40% for walls

#### WITH DIRECT LIGHTING FIXTURES†

Class of Illumina-	One Row	of Units	More Than One Row of Units			
tion as Expressed in Foot-	Light Walls and Ceiling	Dark Walls and Ceiling	Light Walls and Ceiling	Dark Walls and Ceiling		
Candles	Watts per Square Foot	Watts per Square Foot	Watts per Square Foot	Watts per Square Foot		
1	.29	.33	.21	.25		
$\frac{2}{3}$	.55	. 64	. 43	.48		
4	.94	1.10	.75	.82		
5	1.15	1.35	.91	1.00		
6	1.35	1.55	1.05	1.15		
8	1.75	2.05	1.35	1.50		
10	2.15	2.50	1.70	1.85		
12	2.50	3.00	1.95	2.20		
16	3.30	3.80	2.55	2.85		

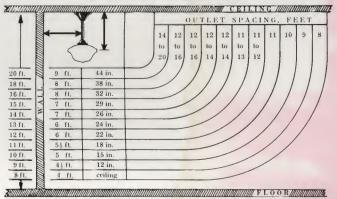
†Increase the above factors by 20% when calculating wattage requirements for Ivanhoe Celestialite or Silvo units.

#### Location of Outlets

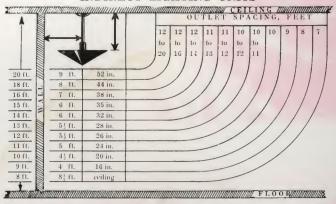
It is important in any class of lighting that outlets be properly located. Whenever conditions will permit, it is desirable to locate outlets symmetrically. For such a system outlets are located at the centers of imaginary squares or rectangles nearly square. Ceiling heights and the sizes of bays are the important factors controlling the location of outlets for a layout of this nature.

The distribution characteristics of a fixture must also be considered. The maximum spacing or distance between fixtures when suspended a certain height above the work is determined from its distribution. Therefore, a definite factor expressing this relation can be determined. When this relation is followed, uniform illumination will result. These tables have been compiled, showing the maximum distances between outlets for different fixtures suspended at stated distances above the floor.

#### ENCLOSING GLASS UNITS



#### INDIRECT LIGHTING UNITS



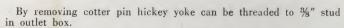
## IVANHOE FIXTURES ARE EASY TO INSTALL

Most IVANHOE fixtures are supplied standard with MS-843 stem which terminates at the ceiling in a new type of hickey which permits fixtures to be mounted and connected easily and quickly. It eliminates the twisting of wires, and avoids the resultant hazard of shorted or grounded circuits encountered in ordinary hickey construction. It permits a fixture to be shortened on the job with a hack saw and hand drill - no re-threading of parts is required.

This hickey is die cast. Adjustable. Tapped 3/8" iron for outlet box mounting. Supports the fixture stem flexibly without rotation. The flexible connection permits the fixture to swing through an angle of 20°. It is constructed in two parts, interlocked by a cotter key. The installer extracts the key, and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. The canopy is then slipped into place against the ceiling, and retained by its locking ring.

### Standard Length Stems

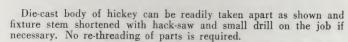
Stems are available in standard stock lengths — 12" — 14" — 16" — 18" — 20" — 22" — 24" and 30". This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.



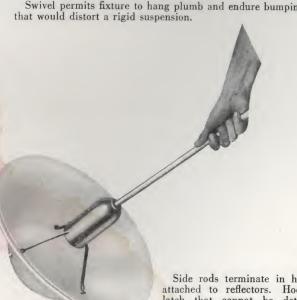
Wired fixture lifts directly into position and cotter pin is replaced in proper length-adjustment hole for deep or shallow outlet box. Fixture is thus mechanically secured without the twisting and straining of wires that occurs when wired fixtures must be threaded into

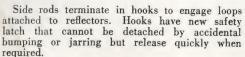
Wire connections can now be readily completed and ceiling canopy locked into place concealing them.

Socket cover can be raised to expose socket for easy wiring. Porcelain sockets are of highest quality. Mogul socket is a ventilated type designed by Ivanhoe to eliminate "frozen" lamp bases and other troubles that occur in the use of ordinary sockets.



Swivel permits fixture to hang plumb and endure bumping or shock



















## FIXTURE SPECIFICATIONS

The Grayson is a suspension type of fixture. It is constructed to insure adequate mechanical strength. The ceiling canopy when released slides down the stem to give free access to the wiring connections. A patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

To the brass socket cover are rigidly attached three steel side rods which support the fixture by engaging three metal loops in the reflector assembly. This assembly consists of three Alzak aluminum louvres assembled as a unit with a bottom plate of ripple finished Luxlite glass. A new patented hook construction makes it impossible for the fixture to become disconnected by accidental shock or jarring. However, a hook can be instantly released to allow the reflector to hinge downward for cleaning or relamping purposes.

The insert of etched Alzak finished aluminum is held in place by spring clips around the bottom. A polished Alzak aluminum cap which fits snug to the lamp is held in place by steel springs which connect with the insert. This lamp cap is removable.

#### Die Cast hickey is pinned to yoke by Yoke strap threads' cotter key in proper to outlet box stud. adjustment hole. Hickey can be taken apart here to permit shortening of stem Ceiling Canopy if required Lock Ring Socket cover can be Tubular Stem slipped up the stem to give access to socket for wiring Reflector - a unit or inspection assembly of three Side rods unhook for relamping or Polished aluminum cleaning. Special lamp cap suspended locking device prefrom insert by three vents accidental wire springs which disconnection hold the cap in firm contact with lamp bulb. Supporting loop

Glass bottom plate

seated in bottom of reflector. Concave

side down.

Aluminum insert is

seated in reflector and held in place

by clips.

## WIRING AND INSTALLATION

Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

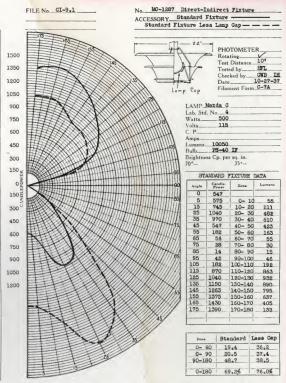
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixure is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

## INSTALLATION DATA

The following table indicates spacing and mounting heights for the Grayson.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
11 feet	10 feet	$4\frac{1}{2}$ feet	2 feet
12 "	10-12 "	5 "	21/4 " .
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 "	10-13 "	7 "	3 "
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 "	4 "
20 "	18-24 "	10 "	4. 44



Typical curve showing distribution of Light

## THE GRAYSON COMPLETE AS SHOWN

		List Price	Deliv-				Di	mensions Length	— Inch	es	Std	. Pkg.
Catalog Number	Finish	Each Complete	ery Code	Туре	Lamp Wattage	Type Socket	Diam.	Tube	Mtg. Hgt.	Length Overall		Wt. Lbs.
MO 1287	Dull Aluminum with Polished Edges	\$36.00	С	Stem	300-500	Mogul	$22\frac{1}{2}$	24	32	39	1	15
MO 1288	Lages	50.00	С	Stem	750-1000-1500	) "	29	30	40	49	1	20

Supplied standard with MS 843 stems. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Fixtures can be supplied with special TRI-LITE socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to catalog number when desired this way.

Extra length stem and wire, Dull Aluminum, \$.72 list per foot.

Standard Canopy switch, \$1.80 list each.

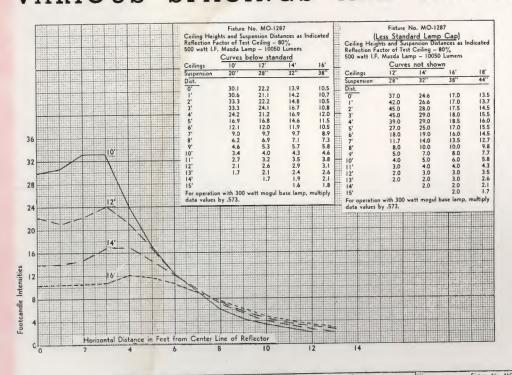
Canopy switch for 750-1000-1500 watt lamps, \$3.00 list each.

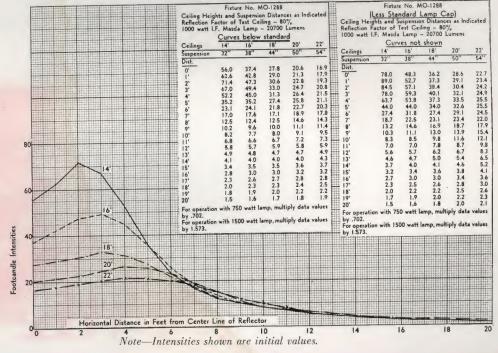
Tri-Lite Canopy switch, \$1.80 list each.

## LUXLITE GLASS BOTTOM DISCS FOR REPLACEMENT

Catalog	List Price	Delivery	Dimensions — Inches		ns — Inches For Use		d Package
Number	Each	Code	Diam.	Depth	Fixture Number	Qty.	Wt. Lbs.
G 431	\$3.00	С	8	1/2	MO 1287	4.	10
G 432	3.75	C	$10\frac{3}{4}$	1	MO 1288	4	15

## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS







Though its work is done silently and agreeably, good lighting never fails to do a good selling job wherever it is placed . . . and the streamlined Diamond fixture with totally enclosed globe of highly efficient Genco glass does a fine job of providing the diffusion and low brightness so desirable in schools, stores, offices and similar locations where direct lighting is indicated.

It comes with a special fitter which furnishes inside support for the globe in a manner that makes it *dust tight*; it also serves as a reflector to utilize light ordinarily lost through fitters of the conventional type.

## FIXTURE SPECIFICATIONS

No. 20 gauge brass in smooth contours is used in the construction of the Diamond fixture, which is of the stem suspension type. This provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

The glass is supported on the flanges of a reflector that closes practically the entire fitter opening. It is held in place firmly but without strain by the external holder shell, which is locked down over it by a lock ring on the stem. This special holder construction provides a globe support that is practically dust-tight and cannot be loosened by accidental jar or vibration. By releasing the lock ring and lifting the holder shell, the globe can be easily removed for relamping.

## GLASS SPECIFICATIONS

The enclosing globe of the Diamond is of Genco glass, the name identifying a precise mixture of homogeneous opalescent glass and manufacturing methods that give this glass the high efficiency and diffusion for which it is noted. It has a special fitter as mentioned above.

The photometric data shown is from tests of complete fixtures and is typical of all sizes.

## WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire, and for mogul socket types, No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

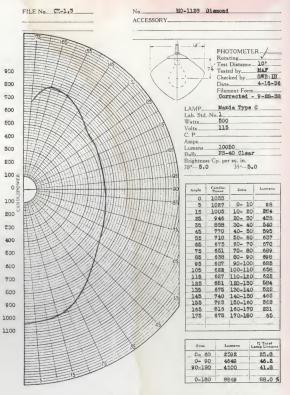
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.



## INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Diamond.

Ceiling Height 9 feet	Spacing Between Outlets 8 feet	Spacing from Walls $31/2$ feet	Suspension Length to Top of Glass . ceiling			
10 "	9 "	4 "	15 inches			
11 "	10 "	41/2 "	18 "			
12 "	10-12 "	5 "	22 "			
13 "	10-12 "	6 "	24 "			
14 "	10-13 "	61/2 "	26 "			
15 "	10-13 "	7 "	30 "			
16 "	10-13 "	8 "	32 "			
18 "	10-20 "	9 "	38 "			
20 "	18-24 "	10 "	44 "			
22 "	20-22 "	12 "	50 "			



Typical curve showing distribution of Light

## THE DIAMOND COMPLETE WITH GLASS

	Catalog Number	Finish	List Price Each Complete	Del. Code	Number and Size of Glass	Lamp Wattage	Type		Length Tube	Inches Length Overall		Pkg. Wt. Lbs.
M	1128x14 Genco	Nuvon Chrome	\$10.08	В	5990x14 Genco	200	Med.	14	18	32	1	10
	1128x16 Genco					200	Med.	16	18	34	1	12
	1128x16 Genco					300-500	Mogu	16	24	40	1	15
	112 <b>8</b> x18 Genco								24	42	1	17

Fixture only No. 1128x14 packed one to a carton, shipping wt. 6 lbs. F.O.B. Meriden.

Fixture only No. MO 1128x16 packed one to a carton, shipping wt. 9 lbs. F.O.B. Meriden.

## REPLACEMENT GLASS, SCHEDULE 2E, F.O.B. MONACA, PA.

Catalog Number	List Price Each	Del. Code	Dimensi Diam.	ons—Inches Depth	For Use Fixture Number	Std. Qty.	Pkg. Wt. Lbs.
5990x14 Genco	\$3.81	В	14	101/2	M 1128x14 Genco	2	10
5990x16 Genco	5.61	В	16	$12\frac{1}{2}$	M 1128x16 Genco, MO 1128x16 Genco	2	13
5990x18 Genco	8.67	C	18	$141/_{2}$	MO 1128x18 Genco	2	18

Fixtures are standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Nuvon Chrome finish is Satin Chromium in appearance.

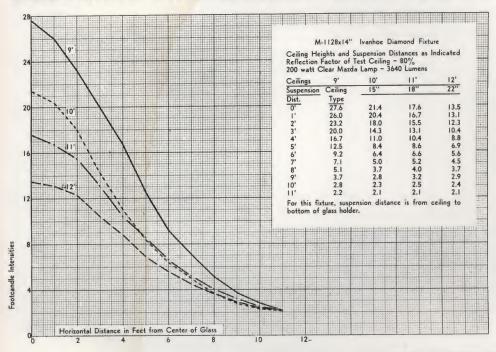
Fixtures can be supplied equipped with special Tri-Lite socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

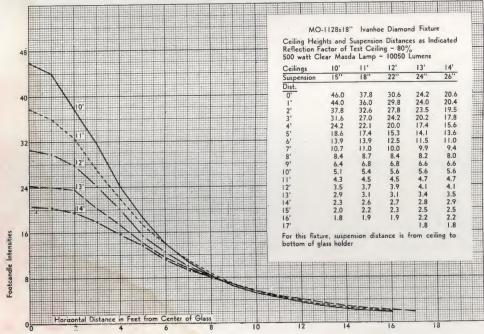
Tri-Lite Canopy switch \$1.80 list each. Extra length stem and wire, Nuvon Chrome, \$.72 list per foot.

Standard Canopy switch \$1.80 list each.

Fixtures F.O.B. Meriden, Conn. Glassware F.O.B. Monaca, Pa.

## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

MERIDEN

CONN.

## The JEWEL

A SEMI-INDIRECT LIGHTING FIXTURE

The JEWEL is an exceptionally smart, attractive lighting fixture designed to fit into any modern scheme of semi-indirect lighting. Its globe of streamlined diamond contour, is totally enclosed and made of highly efficient Crystal Enameled glass. Study it carefully and you will see that it is beautifully proportioned to provide the diffusion and low brightness that make it particularly suitable for installation in schools, stores, offices and similar locations where semi-indirect lighting is desired. Observe, too, that the Jewel has a special fitter that supports the globe from the inside so that it is dust-proof, and this same fitter serves as a reflector to utilize light ordinarily lost through the fitter in conventional type holder construction.

## FIXTURE SPECIFICATIONS

The Jewel is a stem suspension type of fixture — it is constructed of No. 20 gauge brass in smooth contours which assures adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

The glass is supported on the flanges of a reflector that closes practically the entire fitter opening. It is held in place firmly but without strain by the external holder shell, which is locked down over it by a lock ring on the stem. This special holder construction provides a globe support that is practically dust-tight and cannot be loosened by accidental jar or vibration. By releasing the lock ring and lifting the holder shell, the globe can be easily removed for relamping.

## GLASS SPECIFICATIONS

The enclosing globe of the Jewel is of Crystal glass of the same contour as the Ivanhoe Diamond. The lower half of it is heavily enameled to direct the major portion of the light to the ceiling and provide a uniformly lighted glass of low brightness. The upper half of the crystal globe is lightly diffused to insure an evenly lighted ceiling when clear lamp bulbs are used. This highly efficient globe gives a broad distribution of light that permits its use in outlets widely spaced.

## WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For mogul socket types No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

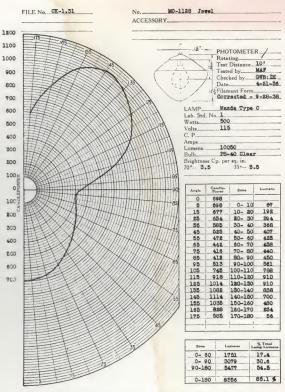
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.



### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Jewel.

Ceiling Height	Spacing Between Outlets 8 feet	Spacing from Walls 31/2 feet	Suspension Length to Top of Glass ceiling
10 "	9 "	4 "	15 inches
11 "	10 "	41/2 "	18 "
12 "	10-12 "	5 "	22 "
13 "	10-12 "	6 "	24 "
14 "	10-13 "	61/2 "	26 "
15 "	10-13 "	7 "	30 "
16 "	10-13 "	8 "	32 "
18 "	10-20 "	9 "	38 "
20 "	18-24 "	10 "	44 "
22 "	20-22 "	12 "	50 "



Typical curve showing distribution of Light

## THE JEWEL COMPLETE WITH GLASS

	Catalog Number	Finish	List Price Each Complete	Del. Code	Number and Size of Glass	Lamp Wattage	Type Socket		ensions Length Tube Stem	- Inches	Std.	Pkg. Wt. Lbs.
M	1128x14 CE	Nuvon Chrome	\$12.80	С	5990x14 CE	200	Med.	14	18	32	1	10
		Nuvon Chrome	14.49	В	5990x16 CE	200	Med.	16	18	34	1	12
		Nuvon Chrome	15.89	В	5990x16 CE	300-500	Mogul	16	24	40	1	15
MO	1128x18 CE	Nuvon Chrome	19.37	C	5990x18 CE	300-500	Mogul	18	24	42	1	17

Fixture only No. 1128x14 packed one to a carton, shipping wt. 6 lbs. F.O.B. Meriden. Fixture only No. MO 1128x16 packed one to a carton, shipping wt. 9 lbs. F.O.B. Meriden.

## REPLACEMENT GLASS, SCHEDULE 2E, F.O.B. MONACA, PA.

Catalog Number	List Price Del. Din Each Code Die			ons—Inches Depth	For Use Fixture Number	Std. Qty.	Pkg. Wt. Lbs.	
5990x14 CE	\$6.51	С	14	101/2	M 1128x14 CE	2	10	
5990x16 CE	8.22	B	16	$12\frac{1}{2}$	M 1128x16 CE, MO 1128x16 CE	2	13	
5990x18 CE	11.70	C	18	$14\frac{1}{2}$	MO 1128x18 CE	2	18	

Fixtures are standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

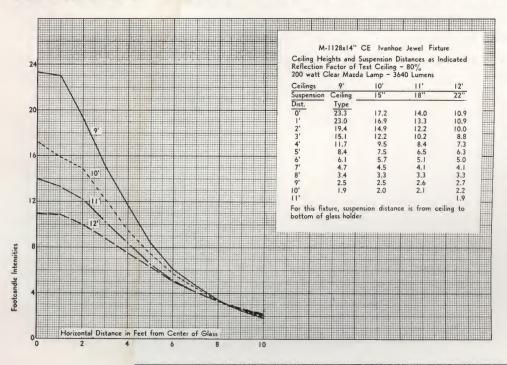
Nuvon Chrome finish is Satin Chromium in appearance.

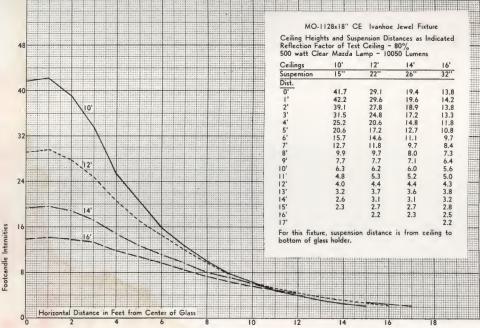
Fixtures can be supplied equipped with special Tri-Lite socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

Tri-Lite Canopy switch \$1.80 list each. Extra length stem and wire, Nuvon Chrome, \$.72 list per foot. Standard Canopy switch, \$1.80 list each.

Fixtures F.O.B. Meriden, Conn. Glassware, F.O.B. Monaca, Pa.

## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

**MERIDEN** 

CONN.

## The JEWEL

A SEMI-INDIRECT LIGHTING FIXTURE

The JEWEL is an exceptionally smart, attractive lighting fixture designed to fit into any modern scheme of semi-indirect lighting. Its globe of streamlined diamond contour, is totally enclosed and made of highly efficient Crystal Enameled glass. Study it carefully and you will see that it is beautifully proportioned to provide the diffusion and low brightness that make it particularly suitable for installation in schools, stores, offices and similar locations where semi-indirect lighting is desired. Observe, too, that the Jewel has a special fitter that supports the globe from the inside so that it is dust-proof, and this same fitter serves as a reflector to utilize light ordinarily lost through the fitter in conventional type holder construction.

## FIXTURE SPECIFICATIONS

The Jewel is a stem suspension type of fixture — it is constructed of No. 20 gauge brass in smooth contours which assures adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

The glass is supported on the flanges of a reflector that closes practically the entire fitter opening. It is held in place firmly but without strain by the external holder shell, which is locked down over it by a lock ring on the stem. This special holder construction provides a globe support that is practically dust-tight and cannot be loosened by accidental jar or vibration. By releasing the lock ring and lifting the holder shell, the globe can be easily removed for relamping.

## GLASS SPECIFICATIONS

The enclosing globe of the Jewel is of Crystal glass of the same contour as the Ivanhoe Diamond. The lower half of it is heavily enameled to direct the major portion of the light to the ceiling and provide a uniformly lighted glass of low brightness. The upper half of the crystal globe is lightly diffused to insure an evenly lighted ceiling when clear lamp bulbs are used. This highly efficient globe gives a broad distribution of light that permits its use in outlets widely spaced.

## WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For mogul socket types No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

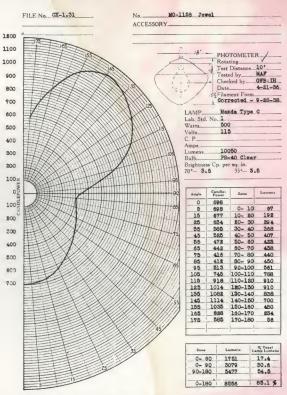
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.



## INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Jewel.

	Ceiling	Spacing Between	Spacing from	Suspension Length to Top of
	Height	Outlets	Walls	Glass
,	9 feet	8 feet	$3\frac{1}{2}$ feet	ceiling
	10 "	9 "	4 "	15 inches
	11 "	10 "	41/2 "	18 "
	12 "	10-12 "	5 "	22 "
	13 "	10-12 "	6 "	24 "
	14 "	10-13 "	61/2 "	26 "
	15 "	10-13 "	7 "	30 "
	16 "	10-13 "	8 "	32 "
	18 "	10-20 "	9 "	38 "
	20 "	18-24 "	10 "	44 "
	22 "	20-22 "	12 "	50 "



Typical curve showing distribution of Light

## THE JEWEL COMPLETE WITH GLASS

	Catalog Number	Finish	List Price Each Complete	Del. Code	Number and Size of Glass	Lamp Wattage	Type Socket		lensions Length Tube Stem	- Inches	Std.	Pkg. Wt. Lbs.
M	1128x14 CE	Nuvon Chrome	\$12.80	С	5990x14 CE	200	Med.	14	18	32	1	10
M		Nuvon Chrome	14.49	В	5990x16 CE	200	Med.	16	18	34	1	12
MO	1128x16 CE	Nuvon Chrome	15.89	В	5990x16 CE	300-500	Mogul	16	24	40	1	15
MO	1128x18 CE	Nuvon Chrome	19.37	C	5990x18 CE	300-500	Mogul	18	24	42	1	17

Fixture only No. 1128x14 packed one to a carton, shipping wt. 6 lbs. F.O.B. Meriden. Fixture only No. MO 1128x16 packed one to a carton, shipping wt. 9 lbs. F.O.B. Meriden.

## REPLACEMENT GLASS, SCHEDULE 2E, F.O.B. MONACA, PA.

		Del. Code				or Use e Number	Std. I Qty.	. Pkg. Wt. Lbs.	
5990x14 CE 5990x16 CE 5990x18 CE	\$6.51 8.22 11.70	C B C	14 16 18	$10\frac{1}{2}$ $12\frac{1}{2}$ $14\frac{1}{2}$	M 1128x14 C M 1128x16 C MO 1128x18 C	EE, MO 1128x16 CE	2 2 2	10 13 18	

Fixtures are standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

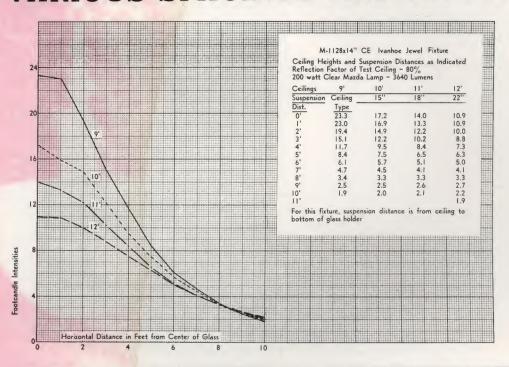
Nuvon Chrome finish is Satin Chromium in appearance.

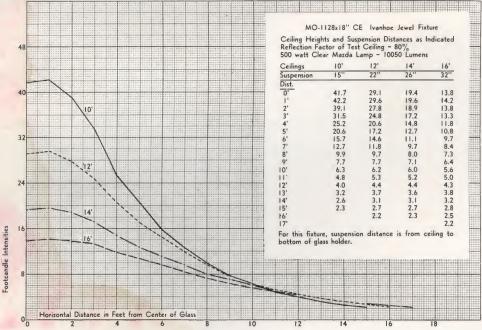
Fixtures can be supplied equipped with special Tri-Lite socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

Tri-Lite Canopy switch \$1.80 list each. Extra length stem and wire, Nuvon Chrome, \$.72 list per foot. Standard Canopy switch, \$1.80 list each.

Fixtures F.O.B. Meriden, Conn. Glassware, F.O.B. Monaca, Pa.

## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

MERIDEN

CONN.

# The HELMET

A SEMI-INDIRECT LIGHTING FIXTURE



No. M-1328 — M0-1329, a close-up Helmet fixture for low ceiling areas. Supplies pleasing modern illumination lends a pleasing atmosphere to any commercial interior. Harmonizes with suppension type. Finished in Nuvon Chrome with Polished socket cover.

No. M-1129, M0-1130 and MO-1151. The Helmet fulfills every demand of good commercial lighting. It consists of a pleasingly simple suspension fixture which supports a graceful flaring bowl of pressed Sudan glass. Transmits a small amount of light through the glass to produce a warm ivory glow of low brightness. The high percentage of light reflected upward is sufficiently spread to produce uniformly lighted ceilings. Excellent for lighting offices, stores, schools, hotels and similar areas. Finished in Nuvon Chrome.

## FIXTURE SPECIFICATIONS

No. 20 gauge brass in smooth contours is used in the construction of the stem suspension Helmet fixture. This provides adequate mechanical strength. The ceiling canopy on this stem type, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS-843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

The ceiling Helmet is supplied standard with a galvanized cross-bar and two barrel nuts for mounting. The brass canopy and socket cover is of a suitable gauge and is assembled as a complete unit to insure adequate mechanical

strength.

The ornamental suspension Helmet has ceiling canopy and socket cover of 20 gauge brass. The chain and cast ornamental column are of suitable mechanical strength. The column having a 3/8" iron pipe running through it. The cast iron adjustable hickey is tapped for mounting to 3/8" iron pipe.

Die cast hickey is

pinned to yoke by Yoke Strap threads Cotter Key in propto outlet box stud er adjustment holes Hickey can be taken apart here to permit shortening of stem if required Ceiling Canopy Lock ring Tubular Stem Socket cover can be to give access to socket for wiring or inspection Side rod unhooks for relamping or cleaning. Special locking device prevents accidental disconnection Supporting loops anchored with rubber bushings and gaskets

To the socket cover of all Helmet fixtures are rigidly attached three steel side rods which support the glass bowl by hooking into metal loops firmly anchored in the bowl. A new patented hook construction makes it impossible for the bowl to become unhooked by accidental shock or vibration; however, for cleaning or relamping, a hook can be instantly released, allowing the bowl to hinge downward. In anchoring the supporting metal loops in the bowl, rubber bushings and washers are used to withstand the deteriorating effect of the moisture of cleaning solutions.

## GLASSWARE SPECIFICATIONS

The Helmet's semi-indirect lighting bowl is made of pressed Sudan glass. The name Sudan identifies a precise mixture of homogeneous opalescent glass and a manufacturing method that gives this glass the high reflection efficiency and low diffuse transmission for which it is noted. The bowl is pressed to a carefully graduated thickness to insure adequate strength and low brightness. Its contour provides the broad distribution of light indicated in the photometric curve.

## WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For Mogul socket types, No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no slipped up the stem re-threading of parts is required.

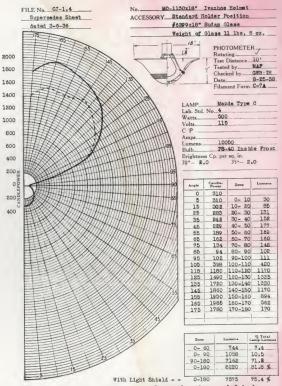
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Helmet.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Glassware
8 feet	7 feet	3 feet	15 inches
9 "	8 "	31/2 "	18 "
10 "	9 "	4 "	20 "
11 "	10 "	41/2 "	24 "
12 "	10-12 "	5 "	26 "
13 "	10-12 "	6 "	28 "
14 "	10-13 "	61/2 "	32 "
16 "	10-13 "	8 "	38 "
18 "	10-20 "	9 "	44 "
20 "	18-24 "	10 "	50 "



Typical curve showing distribution of Light

## THE HELMET COMPLETE AS SHOWN

									NS - IN	CHES		
Catalog Number	Finish	List Price Each Complete	Del. Code	Number and Size of Glass	Lamp Wattage	Type Socket		Length Tube Stem	Mtg.	Ltg. Overall	0	Pkg. Wt. Lbs.
		ST	EM S	SUSPENSION HELM	ET							
M-1129 x 14 Sudan	Nuvon Chrome	\$11.84	В	6299x14 Sudan 3BH	200	Medium	14	18	25	30	1	20
MO-1130 x 18 Sudan	Nuvon Chrome	18.15	В	6299x18 Sudan 3BH	300-500	Mogul	18	18	26	33	1	20
MO-1151 x 22 Sudan	Nuvon Chrome	37.29	C	6299x22 Sudan 3BH	750-1000	Mogul	22	18	28	$36\frac{1}{2}$	1	25
		CL	OSE	UP CEILING HELM	IET							
M-1328 x 14 Sudan	Nuvon Chrome	10.60	В	6299x14 Sudan 3BH	200	Medium	14			$13\frac{1}{4}$	1	18
MO-1329 x 18 Sudan	Nuvon Chrome	16.35	В	6299x18 Sudan 3BH	300-500	Mogul	18		87/16	157/16	1	18
		ORNAM	IENT	AL SUSPENSION H	HELMET							
M-1331 x 14 Sudan	Nuvon Chrome	14.25	В	6299x14 Sudan 3BH	200	Medium			$18\frac{1}{4}$	$23\frac{1}{4}$	1	20
MO-1332 x 18 Sudan	Nuvon Chrome	20.00	В	6299x18 Sudan 3BH	300-500	Mogul	18		19	26	1	20

Fixtures are supplied standard not wired. Wire and socket included. Stem suspension type fixtures standard with MS-843 stem. Stems are available in standard lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Nuvon Chrome is Satin Chromium in appearance. Mounting Height is the distance from ceiling to top of glass.

Mogul socket fixtures can be supplied with Tri-Lite socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to catalog number when desired this way.

Tri-Lite canopy switch \$1.80 list each.

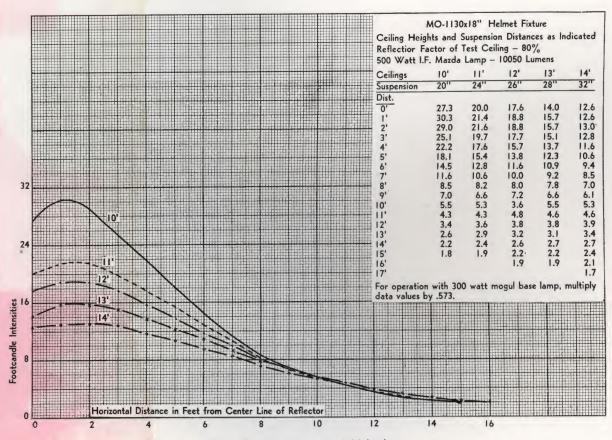
Extra length stem and wire \$.72 list per foot.

Standard canopy switch for 300-500 watt Mazda lamps \$1.80 list each. Canopy switch for 750-1000 watt Mazda lamps \$3.00 list each.

### REPLACEMENT GLASS SCHEDULE 2-A F.O.B. FACTORIES

	List Price	Del.	Dimension	s - Inches	For Use Fixture	Std. Pkg.		
Catalog Number			Depth.	Number	mber Qty.			
299 x 14 Sudan 3BH	\$5.19	A	14	5	M-1129 M-1328 M-1331	2	14	
299 x 14 Sudan 3BH	9.78	A	18	63/8	MO-1130 MO-1332 MO-1329	2	35	
299 x 10 Sudan 3BH	27.12	A	22	81/2	MO-1151	2	40	

## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.



A SEMI-INDIRECT FIXTURE FOR USE WITH THE BI-POST MAZDA LAMP

The strong demand for higher intensities of light in stores and offices led to the development of the Bi-Post MAZDA lamp, which permits the use of a higher wattage bulb in a neat, compact, and smartly styled fixture.

The Bi-Post Helmet is a new fixture designed for either 750 watt or 1000 watt Bi-Post MAZDA lamps. It consists of a pleasingly simple suspension fixture which supports a graceful, flaring bowl of pressed Sudan glass.

This fixture fulfills every demand of good commercial lighting. It provides a higher level of selling or working light. It transmits a small amount of light through the glass to produce a warm ivory glow of low brightness that makes the interior pleasant and inviting.

#### FIXTURE SPECIFICATIONS

No. 20 gauge brass in smooth contours is used in the construction of the Bi-Post Helmet fixture which is of the stem suspension type. This provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped \(^3\)\(\_8\) iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

To the socket cover are rigidly attached three steel side rods which support the glass bowl by hooking into metal loops firmly anchored in the bowl. A new patented hook construction makes it impossible for the bowl to become unhooked by accidental shock or vibration; how-

ever, for cleaning or relamping, a hook can be instantly released, allowing the bowl to hinge downward. In anchoring the supporting metal loops in the bowl, rubber bushings and washers are used to withstand the deteriorating effect of the moisture of cleaning solutions.

### GLASSWARE SPECIFICATIONS

The Bi-Post Helmet's semi-indirect lighting bowl is made of pressed Sudan glass. The name Sudan identifies a precise mixture of homogeneous opalescent glass and a manufacturing method that gives this glass the high reflection efficiency and low diffuse transmission for which it is noted. The bowl is pressed to a carefully graduated thickness to insure adequate strength and low brightness. Its contour provides the broad distribution of light indicated in the photometric curve.



## WIRING AND INSTALLATION

Due to the high operating temperatures of the Bi-Post lamp, a specially constructed ventilated socket cover and socket mounting is used in this fixture to avoid the necessity of using special wires. Therefore, fixtures are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

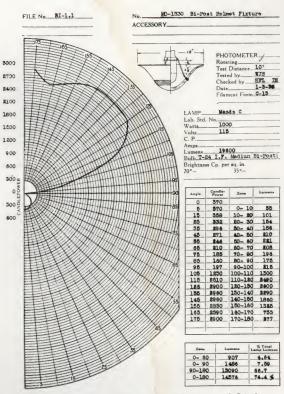
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate wiring of the fixture the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Bi-Post Helmet.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Glassware
8 feet	7 feet	3 feet	11/4 feet
9 "	8 "	31/2 "	11/2 "
10 "	9 "	4 "	13/4 "
11 "	10 "	41/2 "	2 "
12 "	10-12 "	5 "	21/4 "
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 "	10-13 "	7 "	3 "
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 "	4 "
20 "	18-24 "	10 "	4 "



Typical curve showing distribution of Light

## THE BI-POST HELMET COMPLETE AS SHOWN

Catalog Number	Finish	List Price Each Complete	De- livery Code	Number and Size of Glass	Lamp Wattage	Type Socket			Mtg.	Length Overall		Pkg. Wt. Lbs.
MO 1330x18 Sudan	Nuvon	\$25.00	В	6299x18 Sudan	750-1000	Bi-Post	18	24	33	40	1	20

Fixtures are supplied standard not wired. Wire and socket attached.

Fixtures standard with MS 843 stem. Stems are available in standard lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Nuvon finish is Satin aluminum in appearance. Mounting height is the distance from ceiling to top of Glass. Canopy switch for 750-1000 watt Bi-Post Mazda lamps, \$3.00 list each.

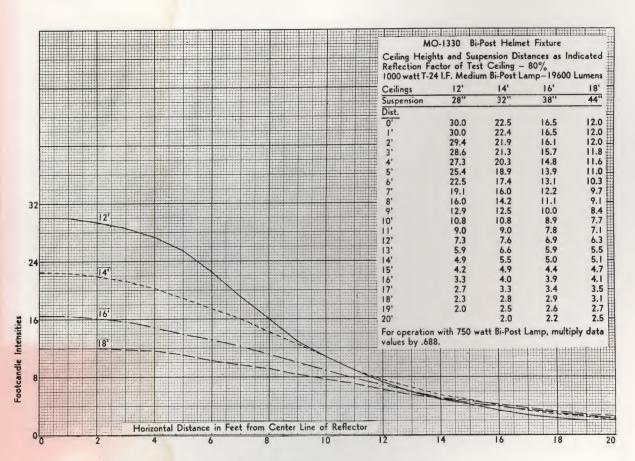
Extra length stem and wire, Nuvon, \$.72 list per foot.

## REPLACEMENT GLASS, SCHEDULE 2-A, F.O.B. FACTORIES

Catalog	List Price	Delivery	Dimension	ns — Inches	For Use	Std	. Pkg.
Number	Each	Code	Diam.	Depth	Fixture Number	Qty.	Wt. Lbs.
<b>6299x18</b> Sudan 3 BH	\$9.78	A	18	63/8	MO 1330	2	35



## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.

THE MILLER COMPANY

**MERIDEN** 

CONN.



A PLASTIC BOWL SEMI-INDIRECT LIGHTING FIXTURE

Molded under intense heat and intense pressure by General Electric, noted specialists in molded plastics, is the bowl of the Mayfair. But that is only part of the story. Light in weight, resilient and almost unbreakable, the material possesses the lighting efficiency of illuminating glassware. Unlighted, the bowl is creamy-white; lighted it becomes translucent with a light ivory glow of uniform brightness. Smart with the fashionable smartness of Mayfair, pleasing to the eye, new, yet with a history of unusual service. That's the Mayfair based upon efficiency.

Fitted with a gracefully formed canopy and stem of Nuvon aluminum, it creates a lighting fixture that is constantly growing in favor.

The greater portion of light is reflected upward at a wide angle providing semi-indirect illumination of high efficiency. Suitable for offices, stores, fine shops, hotel rooms, schools and other interiors of similar character.

#### THE MAYFAIR

#### FIXTURE SPECIFICATIONS

The Mayfair is a stem suspension type of fixture. It is constructed of No. 18 gauge aluminum in smooth contours, which assures adequate mechanical strength. The ceiling canopy, when released slides down the stem, giving free access to the wiring connections. A patented die cast hickey is tapped \(^3\)/8 iron for outlet box mounting, and supports the fixture stem MS843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

The plastic bowl is supported by three heavy bead chains which are caught securely in slots in the socket cover. They cannot be disengaged by accidental shock or vibration, but can be quickly released so that the reflector assembly may hinge downward for cleaning or relamping.

#### PLASTIC BOWL SPECIFICATIONS

Molded under intense heat and tremendous pressure the lighting bowl is a translucent shell, lighter in weight than glass but having a similar smooth, hard surface that is impervious to moisture and easily cleaned. The resi-

lience of the material enables it to withstand shock that would shatter glassware. Other admirable qualities are its resistance to high lamp temperatures, resistance to corrosion and the permanence and uniformity of its properties and structure.

The design of the bowl has been carefully engineered to utilize all of the qualities of molded plastic materials effecting mechanical and photometric excellence. The beads at the center and top edges which are molded into the bowl as part of the decorative design serve to reinforce the bowl, making it sturdier than most bowls of this type — insures against distortion in handling and in service. It reflects upward in a broad pattern a large percentage of the light and transmits just enough light to obtain a uniformly lighted bowl of low brightness. The lamp is well concealed so that it is unnecessary to use light shields which reduce the efficiency and radically change the distribution of light. The excellent photometric results shown on these pages are obtained with standard Ivanhoe Mayfair fixtures which are ideal for practically all semi-indirect lighting applications.

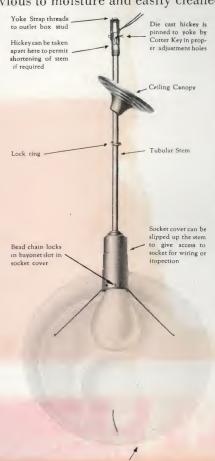
#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For mogul socket types, No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing the lock ring, exposing the socket for easy wiring.

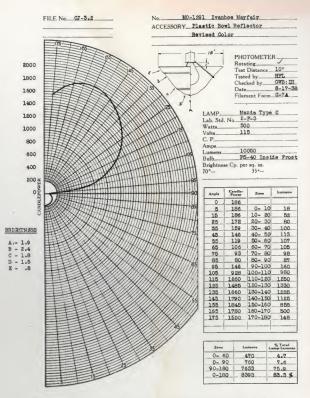


PLASKON Rowl



The following table indicates the spacing and munting heights for the Mayfair.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Bowl
8 feet	7 feet	3 feet	16 inches
9 "	8 "	31/2 "	18 "
10 "	9 "	4 "	20 "
11 "	10 "	41/2 "	24 "
12 "	10-12 "	5 "	26 "
13 "	10-12 "	6 "	24 "
14 "	10-13 "	61/2 "	32 "
16 "	10-13 "	8 "	34 "
18 "	10-20 "	9 "	44 "
20 "	18-24 "	10 "	50 "



Typical curve showing distribution of Light

#### THE MAYFAIR COMPLETE AS SHOWN

Catalog Number	Finish	List Price Each Complete	Del. Code	Lamp Wattage	Type Socket	Diam.	MENSION Length Tube Stem	Mtg. Htg.	Overall Length	STD. Qty.	PKG. Wt. Lbs.
MO1291	Nuvon Aluminum	\$15.75	A	300-500	Mogul	18	18	251/2	331/2	1	12

Fixtures are standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14 16, 18, 20, 22, 24, and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of bowl.

Nuvon aluminum finish is satin aluminum in appearance.

Mogul socket fixtures can be supplied with special TRI-LIGHT socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to catalog number when desired this way.

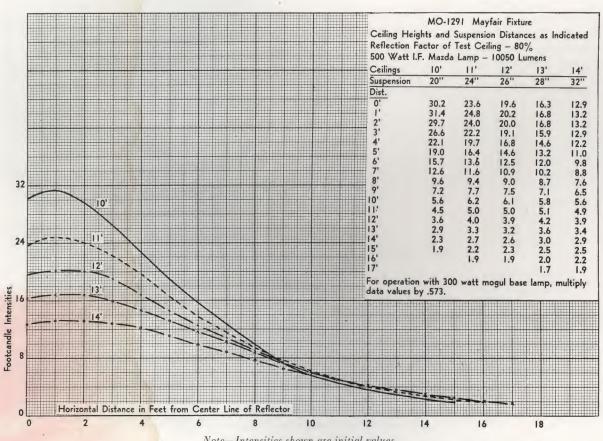
Extra length stem and wire, \$.72 list per foot Nuvon Aluminum.

Standard Canopy switch, \$1.80 list each.

Tri-Lite Canopy switch, \$1.80 list each.



## FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.



A SEMI-INDIRECT LIGHTING FIXTURE



The steadily maintained popularity of the Ivanhoe Keldon, semi-indirect lighting fixture, is obviously based upon three inherent qualities that keep it in the front rank as a sound, practical investment in good lighting: 1. Efficiency; 2. Beauty; 3. Low Maintenance cost. Such a combination is hard to beat.

Efficiency is based upon performance. Performance in lighting is based upon correct engineering and engineered lighting is Miller's middle name! Efficiency of the Keldon can be demonstrated anywhere. It delivers light of high intensity with proper diffusion.

Low maintenance cost is achieved first, by the fact that the lamp can be removed or replaced without removing globe from its holder by simply removing bottom cap. Second, the Keldon is completely enclosed and dust tight, and efficiency is never lowered by dust collecting in interior. Outside dust is easily removed with a damp cloth. Recommended for drafting rooms, offices, reading rooms, hospitals and other interiors where lighting of high intensity with diffused light is indicated.

MO795x18 CE 788

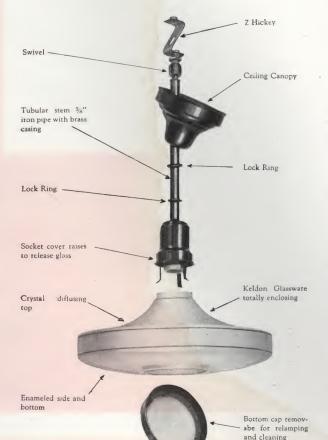
#### FIXTURE SPECIFICATIONS

The Keldon fixture is attractive in appearance. Its construction is simple. The bottom cap employs a positive lock, but is easily removed. Installation is made easy by the use of the adjustable suspension Z-hickey and screw ring canopy.

The Ivanhoe Keldon fixtures were designed especially for the No. 5363 Keldon glassware and are covered by design patents. The cano-

pies, top and bottom caps, tubes and cover rings are all made of brass. The stem suspension, consisting of  $\frac{3}{8}$  inch iron pipe and brass casing, is standard. No chain is supplied.

All fixtures are equipped with medium or mogul porcelain sockets. Ceiling fixtures are supplied with cross bars; suspension fixtures with 3/8 inch Z-hickey.



#### GLASSWARE SPECIFICATIONS

The Keldon is superior to the typical semiindirect fixture in that it does not throw shadows on the ceiling. Light diffusion comparable to that of the highest quality heavy density glass bowls is obtained.

The 5363 Keldon glassware is supplied in a choice of decorations (1) Plain white enameled — Dec. No. 788 or (2) White enameled with tan stripes — Dec. No. 458.

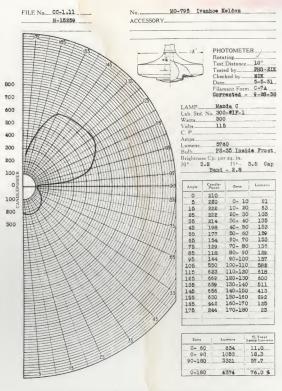
The decorations do not materially lower the lighting efficiency of the fixture and they add a soft, pleasant lighting effect which is particularly agreeable and harmonizes with the modern style of neutral wall treatment.



The distribution of light from the Keldon is shown by the curve. Fifty-five per cent of the light is directed toward the ceiling and seventeen per cent downward. This compares favorably with heavy density open glass bowls that are largely recommended for semi-indirect lighting.

The following table indicates the spacing and mounting heights for the Keldon.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Glassware
9 feet	8 feet	$31/_2$ feet	ceiling
10 "	9 "	4 "	15 inches
11 "	10 "	41/2 "	18 "
12 "	10-12 "	5 "	22 "
13 "	10-12 "	6 "	24 "
14 "	10-13 "	61/2 "	26 "
15 "	10-13 "	7 "	30 "
16 "	10-13 "	8 "	32
18 "	10-20 "	9 "	38 "
20 "	18-24 "	10 "	44 "
22 "	20-22 "	12 "	50 "



Typical curve showing distribution of Light

#### THE KELDON COMPLETE AS SHOWN

*Catalog Number Complete Unit	Finish	List Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Dimension Length Tube Stem	ons — Inch Mtg. Hgt.	es — Length Overall	Std. Qty.	Pkg. Wt. Lbs.
	CEILING TY	PE KELDON	1 — C	OMPLETE	WITH	GLAS	S				
MO 785x18 CE 458										1	16
MO 785x18 CE 788	Polished Bronze	27.78	C	300-500	Mogul	18		ceiling	$17\frac{1}{2}$	1	16
	SUSPENSION	TYPE KELD	on —	COMPLE	TE WIT	H GL	ASS				
MO 795x18 CE 458	Polished Bronze	27.99	В	300-500	Mogul	18	$10\frac{1}{2}$	$12\frac{3}{4}$	$271/_{2}$	1	16
MO 795x18 CE 788	Polished Bronze	27.03	В	300-500	Mogul	18	$10\frac{1}{2}$	$123/_{4}$	$27\frac{1}{2}$	1_	16

#### REPLACEMENT GLASS, SCHEDULE 2E, F.O.B. MONACA, PA.

Catalog Number	List Price Each	Del. Code	— Dimensions — Inches — Diam. Depth	For Use Fixture No.	Qty. Std	. Pkg. Wt. Lbs.
			KELDON GLOBE			
5363x18 CE 458	\$17.49	В	18 $7\frac{1}{2}$	MO 785 — MO 795	1	10
5363x18 CE 788	16.53	В	71/2	MO 785 — MO 795	1	10

Keldon glassware is supplied with top Acid Etched inside.

\*When ordering, give complete catalog number as MO785x18 CE 458.

Fixtures are supplied standard not wired. Wire and socket attached.

Fixtures F.O.B. Meriden, Conn. Glassware F.O.B. Monaca, Pa.

Extra length stem and wire Polished Bronze \$.72 per foot.

Fixtures can be supplied equipped with special Tri-Lite socket at \$.75 list each additional.

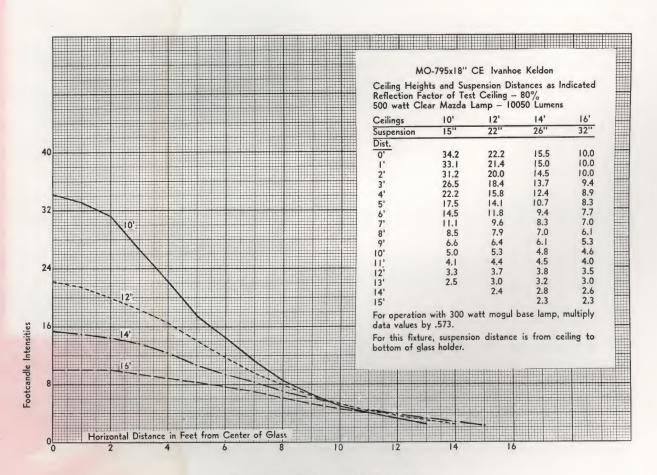
Tri-lite Canopy switch for double filament socket, \$1.80 list each.

Standard Canopy switch, \$1.80 list each.

Inspected by Underwriters' Laboratories.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.



#### FIXTURE SPECIFICATIONS

The Colton is a stem suspension type fixture. The ceiling canopy when released slides down the stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped \(^3\)/8 iron for outlet box mounting and supports the stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°. The canopy is finished in satin aluminum and the stem is in polished aluminum.

To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops anchored to it. A new patented hook construction makes it impossible for the reflector to become unhooked by shock or vibration, however a hook can be instantly released, allowing the reflector to hinge downward for relamping or cleaning. In the fixture using the regular Mazda lamp, the socket cover is of polished aluminum. In the fixture using the Bi-Post Mazda lamp, the socket cover is ventilated and is finished in satin aluminum.

The reflector of the fixture is of Alzak aluminum, brush finished on the outside with satin finished inside reflecting surface or Ivre porcelain enamel outside and white porcelain enamel inside.

#### WIRING AND INSTALLATION

Fixtures having mogul sockets and using the standard Mazda lamp are supplied with No. 14 A.F. wire. A specially constructed ventilated socket cover and socket mounting is used when the Colton is supplied for the Bi-Post Mazda lamp. This is due to the high operating temperatures and eliminates the use of special wires. Therefore, fixtures using the Bi-Post Mazda lamp are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly permitting a fixture to be shortened on the job with a hack saw and hand drill — no rethreading of parts is required.

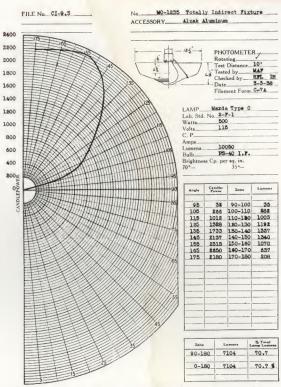
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the cotter key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate wiring of the fixture, the socket cover is arranged so that it may be slipped up the stem by releasing its lock ring, exposing the socket for easy wiring.



The following table indicates the spacing and mounting heights for the Colton.

Ceiling Height	Spacing Between Outlets	Spacing from Wall	Suspension Length to Top of Reflector
9 feet	9 feet	4 feet	18 inches
10 "	10 "	5 "	20 "
11 "	10-12 "	5 "	25 "
12 "	14 "	6 "	30 "
13 "	15 "	8. "	30 "
15 "	18½ "	8 "	32 "
18 "	23 "	111/2 "_	42 "
20 "	26 "	13 "	48 "



Typical curve showing distribution of Light

#### THE COLTON COMPLETE AS SHOWN

							-Dimensi	on — Inche	es —	Std.	Pkg.
Catalog Number	Finish	List Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
		FOI	REG	ULAR MAZI	A LAMPS						
MO 1235	Ivre and Nuvon	\$12.75	A	300-500	Mogul	$181/_{2}$	24	$31\frac{1}{2}$	$37\frac{1}{2}$	1	12
MO 1235	Brushed Aluminum with Polished Trim	15.00	В	300-500	Mogul	181/2	24	$31\frac{1}{2}$	$37\frac{1}{2}$	1	12
		FO	R BI-P	OST MAZD	A LAMPS						
MO 1236	Ivre and Nuvon	15.75	A	750-1000	Bi-Post	$181/_{2}$	24	$31\frac{1}{2}$	$371/_{2}$	1	13
MO 1236 MO 1236	Brushed Aluminum with Polished Trim	18.00	В	750-1000	Bi-Post	$181/_{2}$	24 <sup>t</sup>	$31\frac{1}{2}$	$37\frac{1}{2}$	1	13

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths— 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Extra length stem and wire, Polished Aluminum \$.72 list per foot.

Ivre is a creamy white porcelain enamel finish.

Standard Canopy switch for 300-500 watt Mazda lamps \$1.80 list each.

Canopy switch for 750-1000 watt Bi-Post Mazda lamps \$3.00 list each.

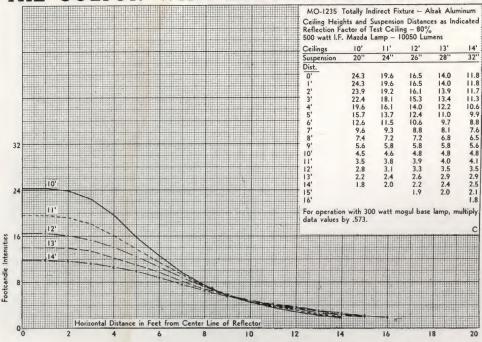
Fixture No. MO 1235 can be supplied with special TRI-LITE socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to number when desired this way.

TRI-LITE canopy switch \$1.30 list each (for MO 1235).

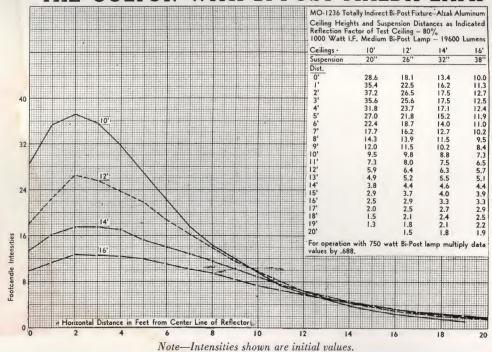
## IVANHOE

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS

#### THE COLTON WITH REGULAR MAZDA LAMP



#### THE COLTON WITH BI-POST MAZDA LAMP





AN INDIRECT LIGHTING FIXTURE
AVAILABLE FOR USE WITH
REGULAR MAZDA AND
ALSO FOR BI-POST
MAZDA LAMPS

The Bi-Post Berkton

The broad distribution of light and the rich silvery appearance of the Berkton, plus its daring simplicity of design, stir employee pride and favorably impress customers.

The Berkton, a reasonably priced fixture, is thus an excellent investment for store or office lighting. Give it a chance and it will speak effectively for itself.

It takes either a 300-500 watt MAZDA lamp or a 750-1000 watt Bi-Post MAZDA lamp in the same reflector size.

On jobs where higher intensities are desired in certain locations, but where low ceilings or limited space prohibit the use of a bulky MAZDA fixture to secure this higher wattage, the Bi-Post fixture can be satisfactorily used. Since it is the same design as the regular MAZDA fixture, it is possible to use Berktons throughout and thus have all fixtures harmonize nicely on the entire job.

#### FIXTURE SPECIFICATIONS

The Berkton is a stem suspension type fixture. The ceiling canopy when released slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting and supports the stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°. The canopy is finished in satin aluminum and the stem is in polished aluminum.

To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops anchored to it. A new patented hook construction makes it impossible for the reflector to become unhooked by shock or vibration, however, a hook can be instantly released, allowing the reflector to hinge downward for relamping or cleaning. In the fixture using the regular Mazda lamp, the socket cover is of polished aluminum. In the fixture using the Bi-Post Mazda lamp, the socket cover is ventilated and is finished in satin aluminum.

The reflector of the fixture is of Alzak aluminum, brush finished outside with satin finished inside reflecting surface. In the Bi-Post fixture, the reflector has an insert which seats securely in the bottom.

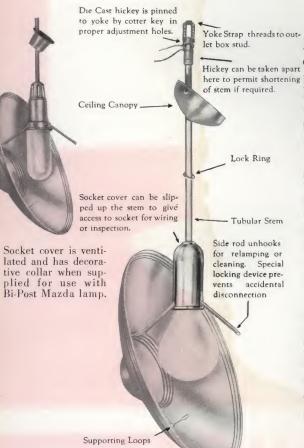
#### WIRING AND INSTALLATION

Fixtures having mogul sockets and using the standard Mazda lamp are supplied with No. 14 A.F. wire. A specially constructed ventilated socket cover and socket mounting is here to permit shortening used when the Berkton is supplied for the Bi-Post Mazda lamp. This is due to the high operating temperatures and eliminates the use of special wires. Therefore, fixtures using the Bi-Post Mazda lamp are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly permitting a fixture to be shortened on the job with a hack saw and hand drill — no rethreading of parts is required.

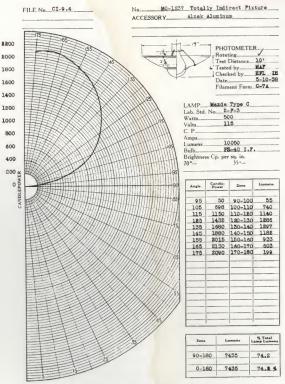
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the cotter key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate wiring of the fixture, the socket cover is arranged so that it may be slipped up the stem by releasing its lock ring, exposing the socket for easy wiring.



The following table indicates the spacing and mounting heights for the Berkton.

Ceiling Height	Spacing Between Outlets	Spacing from Wall	Suspension Length to Top of Reflector
9 feet	9 feet	4 feet	18 inches
10 "	10 "	5 "	20 "
11 "	10-12 "	5 "	25 "
12 "	14 "	6 "	30 "
13 "	15 "	8 "	30 "
15 "	18½ "	8 "	32 "
18 "	23 "	111/2 "	42 "
20 "	26 "	13 "	48 "



Typical curve showing distribution of Light

#### THE BERKTON COMPLETE AS SHOWN

								on — Inc	hes		201
Catalog Number	Finish	List Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Lgth. Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
		FOR B	EGUL!	AR MAZDA L	AMPS						
MO 1237	Brushed Aluminum with Polished Trim	\$15.00	A	300-500	Mogul	19	24	32	38	1	12
		FOR	BI-POS	T MAZDA LA	AMPS						
MO 1238	Brushed Aluminum with Polished Trim	18.00	A	750-1000	Bi-Post	19	24	33	39	1	13

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Extra length stem and wire, Polished Aluminum \$.72 list per foot.

Standard Canopy switch for 300-500 watt Mazda lamps \$1.80 list each.

Canopy switch for 750-1000 watt Bi-Post Mazda lamps \$3.00 list each.

Fixture No. MO 1237 can be supplied with special TRI-LITE socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to number when desired this way.

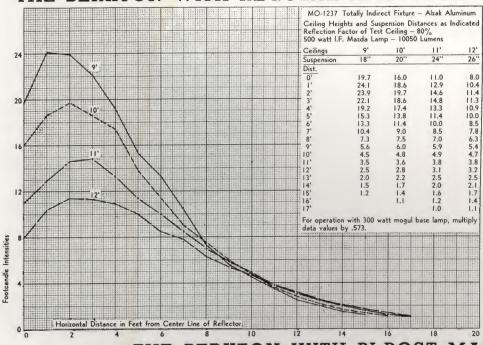
TRI-LITE Canopy Switch \$1.80 list each (for MO 1237).

Inspected by Underwriters' Laboratories.

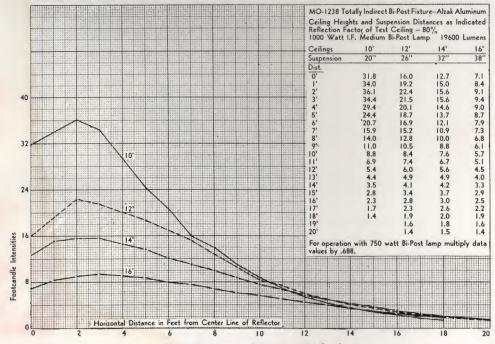
## IVANHOE

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS

#### THE BERKTON WITH REGULAR MAZDA LAMP



#### THE BERKTON WITH BI-POST MAZDA LAMP



Note-Intensities shown are initial values.

# The CAVALIER

AN INDIRECT LIGHTING FIXTURE

Thousands of stores and offices are discovering that better light more than pays for itself. Sales are quickened—work is done faster and with less effort—errors and spoilage are lessened.

The beautifully designed Cavalier is a gracefully modern indirect lighting fixture that will bring your lighting up to modern standards. Constructed with either aluminum or porcelain enameled steel reflectors, these fixtures provide a wide spread of abundant lighting, free from shadow and glare. The Cavalier is an open type fixture highly efficient—and so simply constructed that its interior may be cleaned and lamp removed with the utmost ease. It is recommended for offices, stores, drafting rooms and similar locations where a uniform intensity of light and a minimum of shadow are required from concealed light source.

#### FIXTURE SPECIFICATIONS

The Cavalier is a stem suspension type fixture. It is constructed of No. 20 gauge brass in smooth contours, which provides adequate mechanical strength. The ceiling canopy when released slides down the stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops anchored to it. A patented hook construction makes it impossible for the reflector to become unhooked by accidental shock or vibration. However, a hook may be instantly released, allowing the reflector to hinge downward for cleaning or relamping purposes.

In the aluminum fixture, the outer reflector is of No. 16 gauge aluminum. Nuvon chrome finished outside. It is fitted with a No. 18 gauge Alzak aluminum insert reflector to provide widespread distribution of light.

In the porcelain enamel fixture, no insert is required, and the reflector is of No. 24 gauge steel, porcelain enameled white inside and light cream outside.

#### Die cast hickey is Yoke Strap threads pinned to yoke by to outlet box stud Cotter Key in proper adjustment holes Hickey can be taken apart here to permit. shortening of stem if required Ceiling Canopy Lock ring Tubular Stem Side rod unhooks Socket cover can be for relamping or slipped up the stem cleaning. Special to give access to locking device presocket for wiring or accidental inspection disconnection

Supporting loops

#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For Mogul socket types, No. 14 AF wire is supplied.

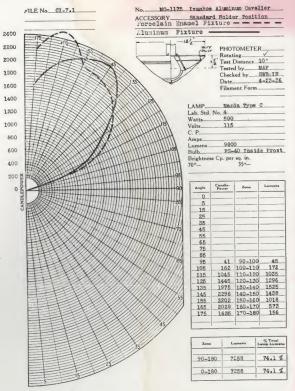
The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

The following table indicates the spacing and mounting heights for the Cavalier.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
8 feet	7 feet	3 feet	15 inches
9 "	8 "	31/2 "	18 "
10 "	9 "	4	20 "
11 "	10 "	41/2 "	24 "
12 "	10-12 "	5 "	26 "
13 "	10-12 "	6 "	28 "
14 "	10-13 "	61/2 "	32 "
16 "	10-13 "	8 "	38 "
18 "	10-20 "	9 "	44 "
20 "	18-24 "	10 "	50 "
22 "	20-24 "	11 "	54 "
24 "	20-28 "	12 "	58 "



Typical curve showing distribution of Light

#### THE CAVALIER COMPLETE AS SHOWN

			11. 7.1				Di		s — Inch	ies	Std.	Pkg.
Catal	og Number	Finish	List Price Each Complete	Del. Code	Lamp Wattage	Type Socket	Diam.	Length Tube Stem	Mtg. Htg.	Length Overall	Qty.	Wt. Lbs.
			NUVON CI	HROM	E WITH IN	SERT						
M	1172	Nuvon Chrome	\$16.50	C	150-200	Medium	151/2	18	24	30	1	12
MO	1175	Nuvon Chrome	19.75	В	300-500	Mogul	$18\frac{1}{2}$	24	31	39	1	15
MO	1177	Nuvon Chrome	26.50	C	750-1000	Mogul	$22\frac{1}{2}$	24	$31\frac{1}{2}$	42	1	20
		POR	CELAIN EI	NAME	L WITHOUT	INSERT						
M	1173	Ivre and Nuvon Chrome	12.50	C	150-200	Medium	151/2	18	24	30	1	12
MO	1176	Ivre and Nuvon Chrome	14.25	$\mathbf{B}$	300-500	Mogul	181/2	24	31	39	1	15
MO	1178	Ivre and Nuvon Chrome	18.00	В	750-1000	Mogul	$22\frac{1}{2}$	24	$31\frac{1}{2}$	42	1	20

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Nuvon Chrome finish is Satin Chromium in appearance.

Ivre is a creamy white porcelain enamel finish.

Fixtures can be supplied equipped with special Tri-Lite socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

Extra length stem and wire Nuvon Chrome, \$.72 list per foot.

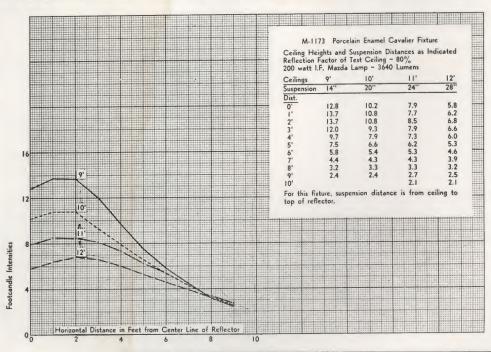
Standard Canopy switch, \$1.80 list each.

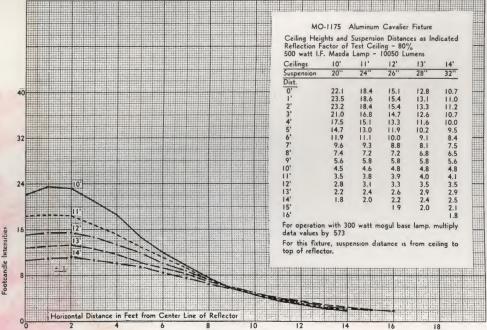
Canopy switch for 750-1000 watt lamps, \$3.00 list each.

Tri-Lite Canopy switch, \$1.80 list each.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.



AN INDIRECT FIXTURE FOR USE WITH THE BI-POST MAZDA LAMP

The Bi-Post Cavalier is a beautifully designed, gracefully modern indirect lighting fixture that strikes a new high in modern store and office lighting progress.

Equipped to use the latest development in lighting, the Bi-Post MAZDA lamp—The Bi-Post Cavalier provides uniform high intensity of light with a minimum of shadows from a smaller proportioned fixture.

It is an open type fixture — highly efficient — and so simply constructed that its interior may be cleaned and lamp removed with the utmost ease.

Available with either aluminum or porcelain enamel reflector. Uses either 750 watt or 1000 watt Bi-Post MAZDA lamp.

#### FIXTURE SPECIFICATIONS

The Bi-Post Cavalier is a stem suspension type of fixture. It is constructed of No. 20 gauge brass in smooth contours, which provides adaquate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops anchored to it. A new patented hook construction makes it im-

possible for the reflector to become unhooked by accidental shock or vibration; however, a hook can be instantly released, allowing the reflector to hinge downward for cleaning or relamping purposes.

In the aluminum fixture the outer reflector is of No. 16 gauge aluminum, Nuvon finished outside. It is fitted with a No. 18 gauge Alzak finished aluminum insert reflector to provide widespread illumination.

In the porcelain enamel fixture no insert is required, and the reflector is of No. 24 gauge steel, porcelain enameled white inside and light cream outside.

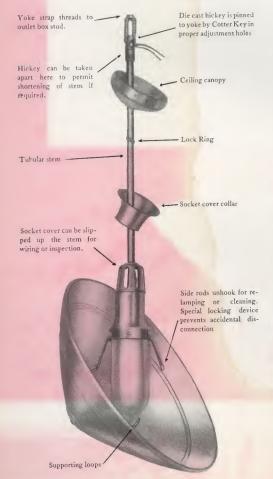
#### WIRING AND INSTALLATION

Due to the high operating temperatures of the Bi-Post Lamp, a specially constructed ventilated socket cover and socket mounting is used in this fixture to avoid the necessity of using special wire. Therefore, fixtures are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

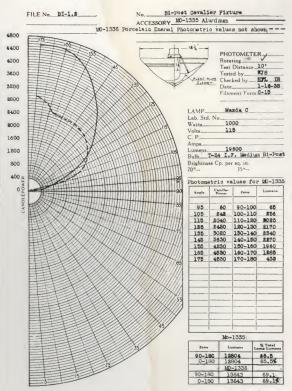
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixure is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.



The following table indicates the spacing and mounting heights for the Bi-Post Cavalier.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
8 feet	7 feet	3 feet	11/4 feet
9 "	8 "	31/2 "	11/2 ".
10 "	9 44	4.	13/4 "
11 "	10 "	41/2 "	2 "
12 "	10-12 "	5 "	21/4 "
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 4	10-13 "	7 "	3 **
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 "	4. "
20 "	18-24 "	10 "	4 "



Typical curve showing distribution of Light

#### THE BI-POST CAVALIER COMPLETE AS SHOWN

Catalog Number	Finish	List Price Each Complete	Delivery Code	Lamp Wattage	Type Socket	Diam.	mensions Length Tube Stem	— Inch Mtg. Hgt.	Length Overall	Std. Qty.	Pkg. Wt. Lbs.
			ALUM	INUM WITH	INSERT						
MO 1335	Nuvon	\$26.75	В	750-1000	Bi-Post	$18\frac{1}{2}$	24	32	40	2	23.
		POR	CELAIN	ENAMEL WIT	THOUT INSER	T					
MO 1336	Ivre and Nuvon	\$21.25	В	750-1000	Bi-Post	$18\frac{1}{2}$	24	32	40	2	24

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

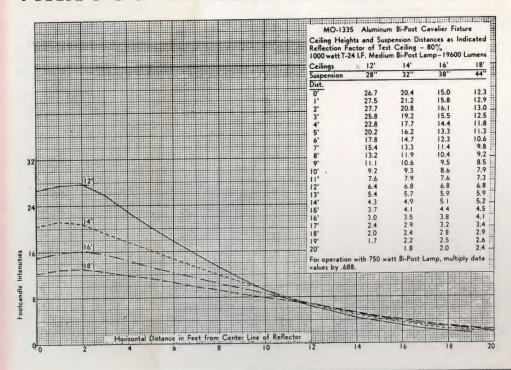
Nuvon finish is Satin Aluminum in appearance. Ivre is a creamy white porcelain enamel finish.

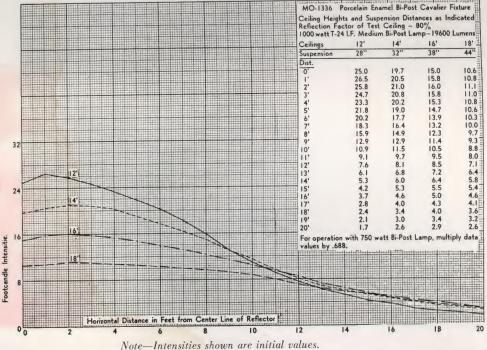
Extra length stem and wire, Nuvon, \$.72 list per foot.

Canopy switch for 750-1000 watt Bi-Post Mazda lamps, \$3.00 list each.

Inspected by Underwriters' Laboratories.

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





THE MILLER COMPANY

**MERIDEN** 

CONN.



AN INDIRECT LIGHTING FIXTURE

The Indirecto gives a new efficiency in lighting that has a dollar and cents value in your business. This fixture is constructed with aluminum outer reflector and Alzak aluminum insert which provides the widespread illumination that makes every square foot of store or office space count.

Maintenance cost is low, for its simple construction makes relamping and cleaning easy.

The design is attractive, yet simple, thus assuring harmony with any type of store or office decoration. The Indirecto is especially desirable for use in offices, stores, drafting rooms and similar interiors where uniform intensity with a minimum of shadow from entirely concealed light sources is a distinct advantage.

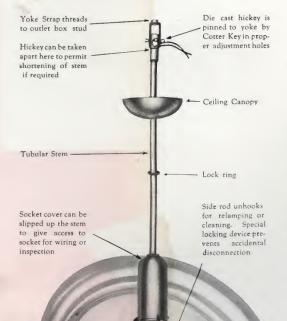
#### FIXTURE SPECIFICATIONS

The Indirecto is a stem suspension fixture. It is constructed of No. 20 gauge brass in smooth contours which provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. A patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

To the socket cover are rigidly attached three

steel side rods which support the reflector by hooking into metal loops anchored to it. A patented hook construction makes it impossible for the bowl to become unhooked by accidental shock or vibration; however, a hook can be instantly released, allowing the bowl to hinge downward for cleaning or relamping purposes.

The outer bowl is of No. 16 gauge aluminum, Nuvon Chrome finished outside. It is fitted with a No. 18 gauge Alzak finished aluminum insert reflector that provides the widespread illumination indicated in the photometric curve.



Supporting loops

#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For Mogul socket types, No. 14 AF wire is supplied.

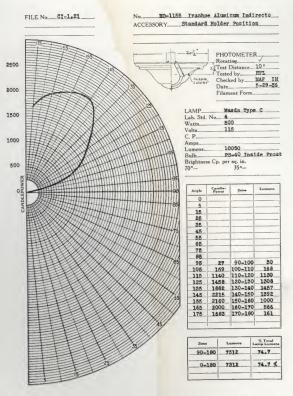
The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

The following table indicates the spacing and mounting heights for the Indirecto.

Ceiling Height 9 feet	Spacing Between Outlets 8 feet	Spacing from Walls	Suspension Length to Top of Reflector 18 inches
10 "	9 "	4 "	20 "
11 "	10 "	41/2 "	24 "
12 "	10-12 "	5 "	26 "
13 "	10-12 "	6 "	28 "
14 "	10-13 "	6½ "	32 -
16 "	10-13 "	8 "	38 "
18 "	10-20 "	9 "	44 "
20 "	18-24 "	10 "	50 "



Typical curve showing distribution of Light

#### THE INDIRECTO COMPLETE AS SHOWN

Catalog Number	Finish	List Price Each Complete	Del. Code	Type	Lamp Wattage	Type Socket	— D	imension Length Tube Stem	Mtg. Hgt.	_	Std. Qty.	Pkg. Wt. Lbs.
M 1152	Nuvon Chrome	\$17.50	B	Stem	150-200	Medium	$17\frac{3}{4}$ $20\frac{3}{4}$ $25$	18	26	32	2	15
MO 1155	Nuvon Chrome	20.75	A	Stem	300-500	Mogul		24	31	39	2	22
MO 1157	Nuvon Chrome	27.50	B	Stem	750-1000	Mogul		24	32	42	2	26

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24, and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Nuvon Chrome finish is Satin Chromium in appearance.

Fixtures can be supplied equipped with special TRI-LITE socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

Extra length stem and wire, Nuvon Chrome, \$.72 list per foot.

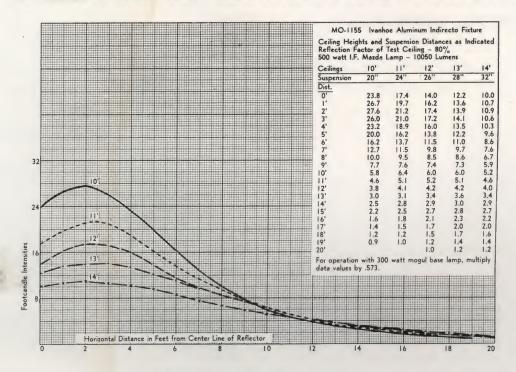
Standard Canopy switch, \$1.80 list each.

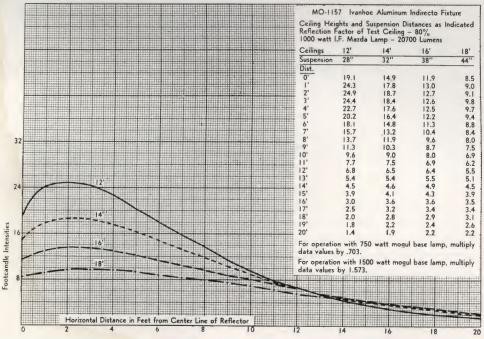
Tri-lite Canopy switch, \$1.80 list each.

Canopy switch for 750-1000 watt lamps, \$3.00 list each.

Inspected by Underwriters' Laboratories.

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

THE MILLER COMPANY

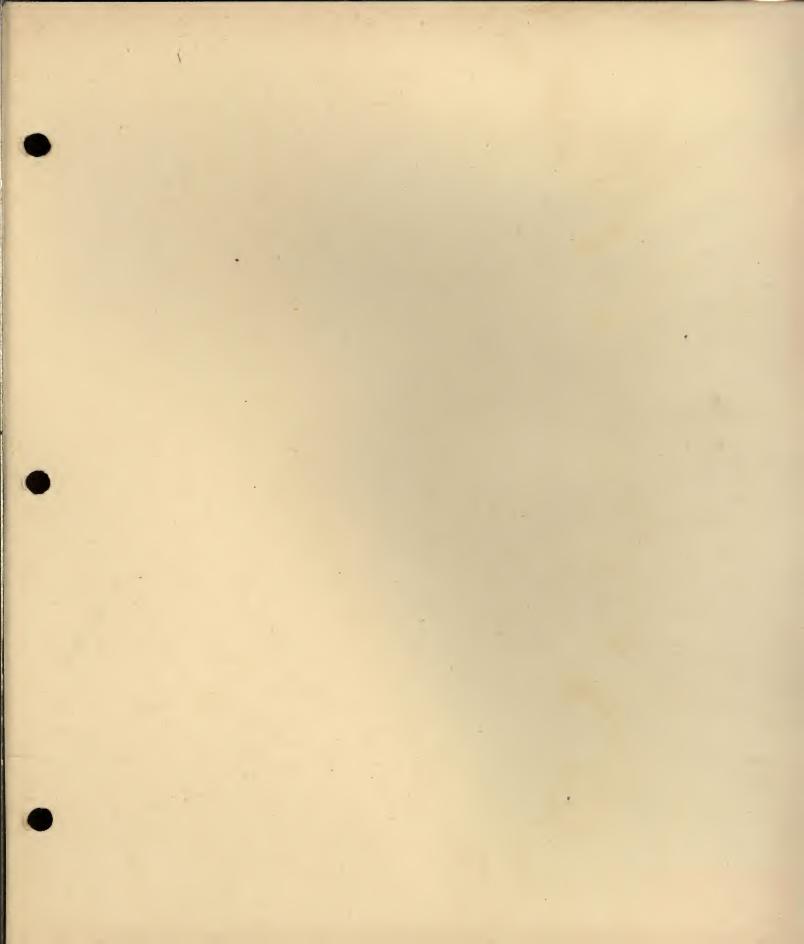
**MERIDEN** 

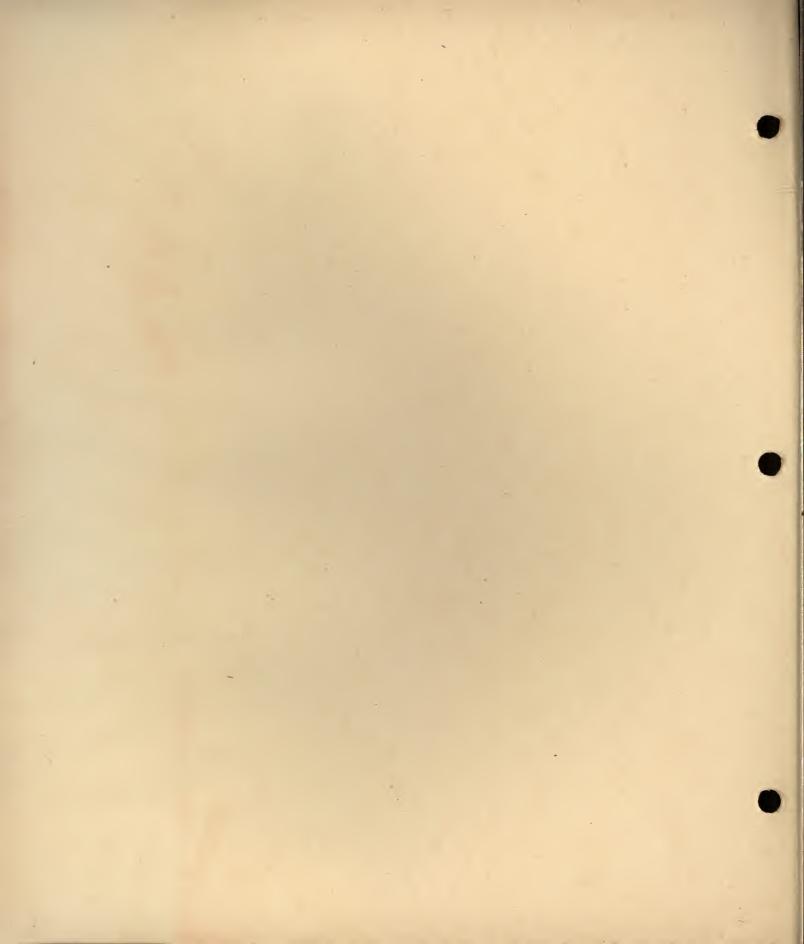
CONN.

## INDEX

CATALOG NUMBER	PAGE NUMBER
G 431	
G 432	11-12-13-14
E 443 Plastic	31-32-33-34
MO 785x18 CE 458	35-36-37-38
MO 785x18 CE 788	35-36-37-38
MO 795x18 CE 458	
MO 795x18 CE 788	
M 1128x14 Genco	
M 1128x16 Genco	
MO 1128x16 Genco	
MO 1128x18 Genco	
M 1128x14 CE	
M 1128x16 CE	
MO 1128x16 CE	10 20 21 22
MO 1128x18 CE	
M 1129x14 Sudan	
MO 1130x18 Sudan	92 94 95 96
MO 1151x22 Sudan	
M 1152	
MO 1155	
MO 1157	
M 1172	
M 1173	
MO 1175	
MO 1176	
MO 1177	47-48-49-50
MO 1178	47-48-49-50
MO 1235	39-40-41-42
MO 1236	.39-40-41-42
MO 1237	.43-44-45-46
MO 1238	.43-44-45-46
MO 1287	
MO 1288	11-12-13-14
MO 1291	.31-32-33-34
M 1328x14 Sudan	.23-24-25-26
MO 1329x18 Sudan	23-24-25-26
MO 1330x18 Sudan	27-28-29-30
M 1331x14 Sudan	23-24-25-26
M 1332x18 Sudan	23-24-25-26
MO 1335	
MO 1336	51 59 59 54
5363x18 CE 458	
5363x18 CE 788	
5990x14 Genco	
5990x16 Genco	
5990x18 Genco	10-20-21-22
5990x14 CE	19-20-21-22
5990x16 CE	
5990x18 CE	19-20-21-22
6299x14 Sudan 3 BH	23-24-25-26
6299x18 Sudan 3 BH	23-24-25-26
6299x18 Sudan 3 BH	27-28-29-30
6299x22 Sudan 3 BH	23-24-25-26







# DUPLEXALITE LIGHTING fixtures

for Commercial Requirements

THE MILLER COMPANY MERIDEN, CONNECTICUT NEW YORK • 14 EAST 38th STREET

CATALOG Section 2B

## GOOD EYESIGHT DEMANDS GOOD LIGHTING

"What is modern civilization doing to eyesight?"

Searching for an answer to this question, scientists found that increased close-seeing work indoors under inadequate lighting conditions has caused an appalling increase in defective eyesight.

Among farmers and laborers, for example, whose work is outdoors, under natural lighting conditions, eye-defects ranged from 1% to 20%, while among draftsmen and stenographers, who have harder eye tasks and less light, eye defects ranged from 80% to 100%.

Clearly, there is a relationship between good lighting and good eyesight.

And what is good lighting?

Good lighting must meet these four requirements: It must be abundant in quantity. It must be free from glare. It must be properly diffused to relieve harsh contrasts. It must be widely distributed to give you light where you need it.

Lighting which complies with these specifications help eyes see easily. There is less strain on eyes . . . less drain on nervous energy. "Eyes burn 25% of all the energy expended by the body," says Professor Bristow Adams, "When tired or defective eyes demand more than their share, the normal nerve supply of other organs is lessened and the result is head-

So when you select lighting fixtures for office or home, the first point to consider is their ability to conserve health, nervous energy and eyesight. They should be properly engineered to give a correct balance of all factors to meet the demands of good eyesight.

Sec. 2B, Page 3, February 1, 1939

# DUPLEXALITE FIXTURES GIVE EYES BALANCED LIGHTING

Duplexalite fixtures provide the abundant, smooth, glareless lighting that eyes need for easy, safe, comfortable seeing.

That is why they are used in leading stores, office buildings, schools, colleges, newspaper offices, hotels, hospitals, and similar commercial institutions throughout the world where good lighting is essential to good business and good work.

Duplexalite fixtures are really *light conditioners*. The raw rays of the MAZDA lamp are effectively and uninterruptedly directed to the ceiling and then reflected downward to give soft, even, general illumination.

From 15% to 20% of the total output is downward and filtered through a bottom disc so arranged that it illuminates the outer side of reflector, preventing extreme contrasts in brightness. The reflector redirects those rays of light to the ceiling which otherwise would strike the eye and interfere with comfortable vision.

Thus Duplexalite fixtures provide the proper balance of all factors of good lighting: ample light, freedom from glare, proper diffusion, and wide distribution.

Styled to modern smartness, Duplexalite fixtures are now available in a wide variety of types to meet many particular requirements. Yet, no matter what particular model you may select, you may be certain that it is designed with careful regard to the needs of the eyes.

Every step in the manufacture of Duplexalite fixtures is under our own supervision. We have our own electrical testing laboratories—our own foundries, rolling mills, Electro plating, porcelain enameling, Alzak aluminum processing, metal stamping, spinning and fabricating plants . . . and we use every ounce of ability gained through nearly 100 years' experience in metal craftsmanship to make Duplexalite fixtures outstanding in value, quality, beauty and modernity.

## DUPLEXALITE

Sec. 2B, Page 4, February 1, 1939

## TYPICAL INSTALLATIONS



PROVIDENT MUTUAL LIFE INSURANCE CO.
PHILADELPHIA, PA.



BUSINESS MENS ASSURANCE CO. KANSAS CITY, MO.



ST. LUKE'S HOSPITAL CLEVELAND, OHIO



THE CHICAGO DAILY NEWS
BUILDING
CHICAGO, ILL.



CANADA LIFE ASSURANCE CO. TORONTO, CANADA



PENNSYLVANIA RAILROAD BUILDING PHILADELPHIA, PA.



STRAUSS BUILDING CHICAGO, ILL.



UNION TRUST BUILDING CLEVELAND, OHIO

## TYPICAL INSTALLATIONS

## DUPLEXALITE

Sec. 2B, Page 5, February 1, 1939



ACACIA LIFE INSURANCE CO. WASHINGTON, D. C.



JOHN HANCOCK LIFE INSURANCE CO.
BOSTON, MASS.



NEW YORK HOSPITAL CORNELL MEDICAL CENTER NEW YORK, N. Y.



UNION TRUST BUILDING DETROIT, MICH.



GENERAL MOTORS BUILDING DETROIT, MICH.



MEDICAL ARTS BUILDING CLEVELAND, OHIO



KOPPERS BUILDING PITTSBURGH, PA.



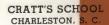
LIBERTY MUTUAL INSURANCE CO. BOSTON, MASS.

Sec. 2B, Page 6, February 1, 1939

# TYPICAL INSTALLATIONS



ACACIA MUTUAL LIFE INSURANCE CO. WASHINGTON, D. C.





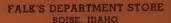


G. FOX & CO. HARTFORD, CONN.

# TYPICAL INSTALLATIONS

# DUPLEXALITE

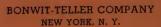
Sec. 2B, Page 7, February 1, 1939







IMPERIAL THEATER CLEVELAND, OHIO



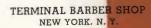


Sec. 2B, Page 8, February 1, 1939

# TYPICAL INSTALLATIONS



THE MORRISTOWN LIBRARY MORRISTOWN, N. J.







STERN BROS. NEW YORK, N. Y.

# TYPICAL INSTALLATIONS

# DUPLEXALITE

Sec. 2B, Page 9, February 1, 1939

IVEY'S INC. ASHEVILLE, N. C.





CITY BANK & TRUST CO. MILWAUKEE, WIS.

MUIRHEAD RESTAURANT TORONTO CANADA

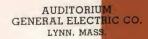


Sec. 2B, Page 10, February 1, 1939

# TYPICAL INSTALLATIONS



MASSACHUSETTS MUTUAL LIFE INSURANCE CO. SPRINGFIELD, MASS.







KAUFMAN-STRAUS CO. LOUISVILLE, KY.

# TYPICAL INSTALLATIONS

# DUPLEXALITE

Sec. 2B, Page 11, February 1, 1939

HIGBEE CO.
CLEVELAND, OHIO





CHICAGO DAILY NEWS

MUTUAL CREDIT CLOTHING STORE BEAVER FALLS, PA.

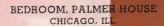


Sec. 2B, Page 12, February 1, 1939

# TYPICAL INSTALLATIONS



BEDFORD JUNIOR HIGH SCHOOL WESTPORT, CONN.







FITZ-SMITH DRY GOODS CO. KANSAS CITY, MO.

Sec. 2B, Page 13, February 1, 1939

## PLANNING AN INDIRECT LIGHTING SYSTEM

The starting point in planning an indirect lighting system with Duplexalite Fixtures is to determine the amount of light required in the room to be Light Conditioned. Several factors determine this, such as the condition of the interior, the nature of the seeing task involved, the color of materials displayed or handled, and similar factors.

Where critical close-seeing tasks are performed, high intensities of light are required to make seeing easy and expedite work. Where merchandise is displayed, abundant, glareless light is needed to make merchandise more attractive and speed up sales. In other words, the lighting should be fitted to the task. The degree of ease, quickness, and accuracy of seeing desired is the basic point in determining the adequate level of illumination.

While it is impossible in this space to give complete specifications, the following table shows the recommended lighting levels which have been worked out according to modern standards of illumination. More detailed information may be obtained by contacting Miller engineers, whose services are always available to help you plan efficient indirect lighting systems with Duplexalite Fixtures.

#### RECOMMENDED FOOTCANDLES OF ILLUMINATION

Art Galleries	Hotels	10-20
General10	Libraries	20-30
Auditoriums5-10	Museums General	10
Bank Lobbies20	Exhibits	30-50
Barber Shops and Beauty Parlors15-25	Offices—General and Private	15-30
Churches5-15	Drafting Rooms	30-50
Clubs and Directors Rooms10-30	Restaurants	10
Corridors, Halls, etc5	Displays	30-50
Display Rooms	Schools	
Automobile10-20	Classrooms	20-30
Furniture20-30	Sight-saving classes	30-50
Hospital Wards15-30	Stores	
Laboratories20-30	Theatres	5-15

#### SPACING FOR UNIFORM LIGHTING

Make a floor plan of the room to be lighted and arrange outlet spacing symmetrically with respect to bays, columns, or other architectural features. After establishing actual area per outlet, determine the wattage per outlet.

The table below gives the maximum areas to be lighted with one Duplexalite fixture.

#### RECOMMENDED FOOTCANDLES OF ILLUMINATION

		W'AT	WATTS PER OUTLET TO PRODUCE		
Average Area Per Outlet in Square Feet	Ceiling Height	6 to 10 Footcandles	10 to 15 Footcandles	15 to 25 Footcandles	
81	9 ft.		200	300	
100 to 144	9'5" to 11'0"	200	300	500	
160 to 225	11'5" to 15'0"	300	500	<b>7</b> 50	
256	16 ft.	500	750	1000	

Sec. 2B, Page 14, February 1, 1939

# PLANNING AN INDIRECT LIGHTING SYSTEM

#### SUSPENSION HEIGHTS

Ceiling Height of Room	Surpension Top of Bowl to Celling	Ceiling Height of Room	Suspension Top of Bowl to Ceiling
0'	18"	14'-15'	32"
10'	20"	16′-17′	38"
11'	2.4"	18′-19′	44"
12'-13'	28"	20'	50"

¤	¤	¤	¤	¤	¤	¤	¤
¤	¤	¤	¤	¤	¤	¤	¤
¤	¤	¤	¤	¤	¤	¤	¤
¤	¤	¤	¤	¤	¤	¤	¤

#### TYPICAL LAYOUTS

Four Units per Bay. This is the most common system for the square bay of usual dimensions. Four-Two System. Equivalent to three units per bay and alternating to four per bay where spacing allows.

q	R	¤	[¤	p	¤	¤	¤
a	p	¤	p	×.	¤	¤	D.
q	Ø	¤	¤	Ø,	¤	¤	P
Ø	p	¤	¤	p	¤	¤	(0)

#### INTERIOR CONDITIONS

Room conditions should be classified according to the decoration or painting of the walls and ceilings. The effect of the color of walls and ceilings on illuminating efficiency is one of the most important considerations in the design of a lighting installation.

Ceilings should be matte or eggshell finish Ivory, White, or Light Cream and upper walls should preferably be light in color for best lighting results.

The reflection factors of various colored paints are indicated in the table below:

	Reflection Factors	Color	Reflection Factors
Flat White		Light Gray	60%
Ivory White		Light Green	
Cream		Buff	
Caen Stone		Tan	40%
Ivory Tan	65%	French Gray	35%

Matte or eggshell finish is usually to be preferred to gloss for ceilings and other reflecting surfaces, since it diffuses the light and does not mirror the brightness of the light source. These finishes are equal to or superior to gloss finish in reflection factors.

## DESCRIPTION OF DUPLEXALITE FIXTURE DIFFUSING DISCS

#### **GENCO**

A light weight blown glass of highly diffusive white character.

#### FROSTONE

A dense white glass that reduces the brightness of

the disc and increases the percentage of indirect light.

#### **IVRISTONE**

This has a soft Ivory appearance. Useful in reducing brightness of disc when large lamps are used and when warmth of light is desired.

#### EXPLANATION OF DELIVERY CODE

Time required to fill orders:

A-48 hours B-1 week C—2 weeks
D—3 to 4 weeks



A DIRECT-INDIRECT
LIGHTING
FIXTURE

The business world is finding out that better lighting pays profits. The sales-increasing value of scientific, modern lighting has been proven again and again. When lighting is improved in offices, work is done faster, better and more cheerfully.

The Belmont is designed to provide the highest type of illumination in stores, offices, showrooms and other business places. The eye-soothing, indirect lighting relieves "shopping fatigue" and "office fatigue". A proper balance of direct light for "close work" or spotlighting merchandise is provided by ingenious concentric louvres that conceal the bulb, but throw maximum light downward for "close work" or merchandise display.

The Belmont modernizes stores or offices. Its beautiful lines, highly polished aluminum edges, contrasting with dull aluminum, harmonize with any interior and add distinctive "tone".

OUPLEXALITE

#### FIXTURE SPECIFICATIONS

The Belmont is a suspension type fixture and is constructed to insure adequate mechanical strength. The aluminum canopy when released slides down the stem giving easy access to the wiring connections. No. D 536 is supplied with a patented die cast hickey that is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°. No. D 1036 is supplied with a heavier stem with heavy turned brass swivel joint.

The aluminum socket cover houses the well known Miller-Ivanhoe porcelain socket. To this

socket cover are rigidly attached three steel side rods which support the reflector by hooking into three metal loops anchored in the louvre. A new patented hook construction makes it impossible for the reflector assembly to become disengaged by accidental shock or jarring. However, a hook can be instantly released for relamping or cleaning purposes.

The body of the fixture consists of three aluminum louvre type reflectors assembled as a unit. In the bottom of the fixture is a unit assembly of concentric louvres which can be readily removed to give access to the lamp without disturbing the rest of the fixture assembly.

#### pinned to yoke by to outlet box stud. cotter key in proper adjustment hole. Hickey can be taken apart here to permit

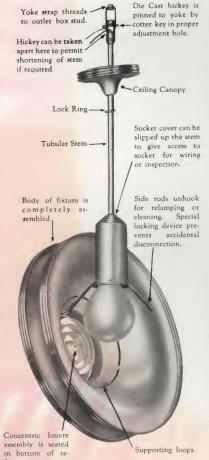
Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill - no re-threading of parts is required.

WIRING AND INSTALLATION

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

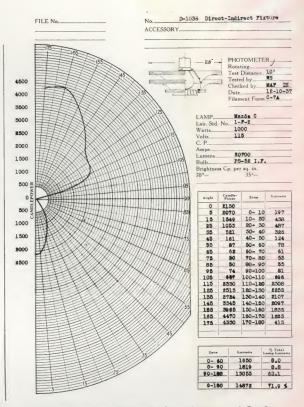
In order to facilitate the wiring of the fixture the socket cover is arranged so that it may be slipped up the fixture stem by releasing the lock ring, exposing the socket for easy wiring.



#### INSTALLATION DATA

The following table indicates spacing and mounting heights for the Belmont.

Ceiling Height	Spacing Between Outlets	Spacing from Wall	Suspension Length to Top of Reflector
11 feet	10 feet	$4\frac{1}{2}$ feet	2 feet
12 "	10-12 "	5 "	21/4 "
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 "	10-13 "	7 "	3 "
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 - "	4 "
20 "	18-24 "	10 "	4 "



Typical curve showing distribution of Light

#### THE BELMONT COMPLETE AS SHOWN

Catalog		List Price	Deliv-	-	Lamp Wattage	Type	Dimensions — Inches Length				Std.	Pkg.
Number	Finish	Each Complete	Code	Туре		Socket	Diam.	Tube Stem		Length Overall	Qty.	Wt. Lbs.
D 536	Dull Aluminum with Polished Edges	\$43.00	В	Stem	300-500	Mogul	$201/_{2}$	24	32	38	1	25
D 1036	44	63.00	В	Stem	750-1000-1500	Mogul	28	30	$401/_{2}$	501/2	1	35

D 536 is supplied standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery. D 1036 is supplied with 7/8 inch casing and 3/8 inch iron pipe.

Fixtures are supplied standard not wired. Wire and socket included. Mounting height is the distance from ceiling to top of reflector.

Fixtures can be supplied with special TRI-LITE socket for use with Mazda double filament lamp bulbs at \$.75 list each additional. Add TRI to catalog number when desired this way.

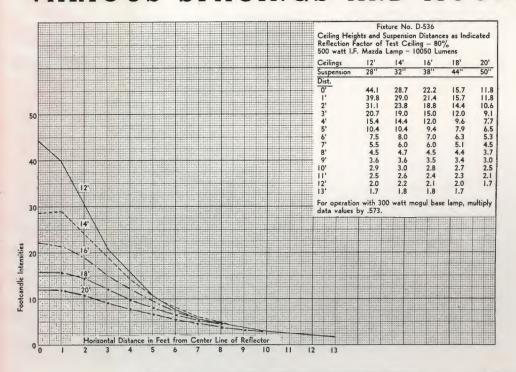
Extra length stem and wire, Dull Aluminum, \$.72 list per foot.

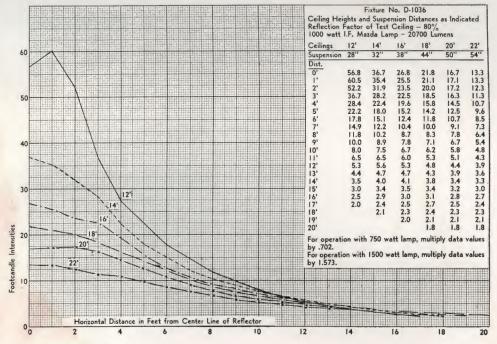
Standard canopy switch, \$1.80 list each.

Canopy switch for 750-1000-1500 watt lamps, \$3.00 list each.

Tri-Lite canopy switch. \$1.80 list each.

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





# THE MILLER COMPANY



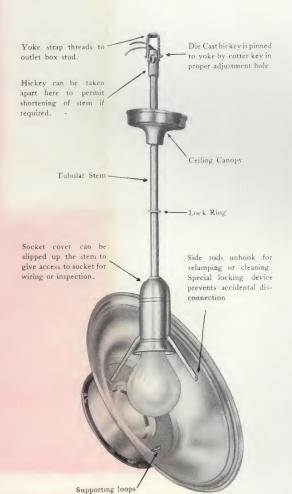
A SEMI-ÍNDIRECT DUPLEXALITE FIXTURE

The D18 Series DUPLEXA-LITE fixture sets a new high in lighting efficiency and appeal so quietly expressive of sound modern thought is the smart simplicity of its design - so completely satisfying is the light it gives in quality and in quantity. Inside the aluminum bowl there is an insert reflector of ALZAK aluminum — a hard, non-porous surface which will not tarnish or stain, which resists corrosion and is not affected by moderate heat. Light in weight. Easily cleaned. Of a new high reflecting efficiency. Available in a complete range of sizes. Executives who are undertaking, or considering the modernization of stores, offices, hotels, clubs, restaurants, public buildings, will be keen to appreciate the outstanding desirability of the D18 Series DUPLEXALITE fixture.

#### FIXTURE SPECIFICATIONS

This fixture is of the stem suspension type. The stem is constructed of No. 20 gauge brass which provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. The patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an

angle of 20°. To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops which are attached to the outer bowl. A new patented hook construction makes it impossible for the reflector to become unhooked by accidental shock or vibration; however, a hook can be instantly released, allowing the reflector to hinge downward for cleaning or relamping purposes.



#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. For Mogul socket types, No. 14 AF wire is supplied.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

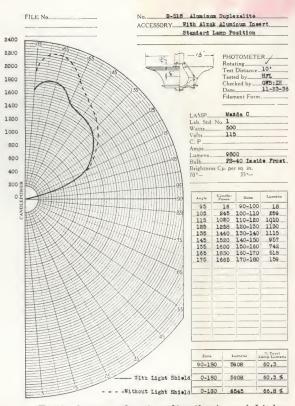
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the D18 series Duplexalite fixture.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
9 feet	9 feet	4 feet	18 inches
10 "	10 "	5 "	20 "
11 "	10-12 "	5 "	25 "
12 "	14 "	6 "	30 "
13 "	15 "	8 "	30 "
15 "	181/2 "	8 "	32 "
18 "	23	111/2 "	42 "
20 "	26 "	13 "	48 "



Typical curve showing distribution of Light

#### THE D 18 SERIES COMPLETE AS SHOWN

		— Dimensions — Inches —									
Catalog Number	Standard Finish	List Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Length Tube Stem	Mtg. Hgt.	Length Overall	Standard Quantity	Package Wt. Lbs.
D 218	Nuvon Aluminum with Polished Edges	\$15.50	В	200	Medium	15	18	25	30	5	30
D 518	Nuvon Aluminum with Polished Edges	19.50	В	300-500.	Mogul	18	18	25	32	5	48
D 1018	Nuvon Aluminum with Polished Edges	31.00	С	750-1000	Mogul	$23\frac{1}{2}$	30	39	48	5	60

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24, and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Extra length stem and wire Nuvon aluminum, \$.72 list per foot.

Nuvon Aluminum is satin aluminum in appearance.

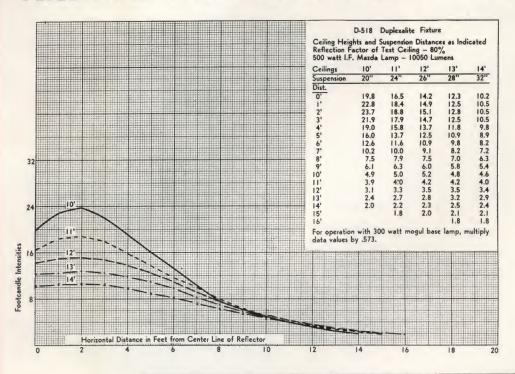
Standard canopy switch, \$1.80 list each.

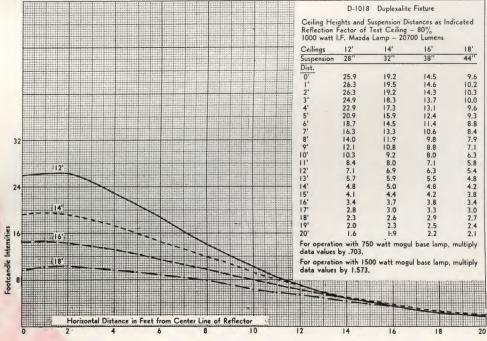
Tri-Lite Canopy switch, \$1.80 list each.

Canopy switch for 750-1000 watt lamps, \$3.00 list each.

Fixtures supplied with Tri-Lite socket at \$0.75 list each additional. Add TRI to catalog number when desired this way.

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.



A LUMINOUS BOWL INDIRECT FIXTURE FOR USE WITH THE BI-POST MAZDA LAMP

The Bi-Post D 1118, designed for use with the new Bi-Post MAZDA lamp, provides higher efficiency lighting for store or office purposes from a smaller proportioned light source.

It supplies pleasing modern illumination—high in intensity so that merchandise can be inspected easily and work can be done more rapidly—ideal in quality so that it lends a pleasing atmosphere to any commercial interior.

High lighting efficiency is easy to maintain with the Bi-Post D 1118 for the insert reflector is of ALZAK aluminum — the new finish that does not tarnish or blacken and is not affected by ordinary abrasion, moisture or common forms of corrosion. Easy to clean with soap and water. Uses either 750 watt or 1000 watt Bi-Post MAZDA lamp.

#### FIXTURE SPECIFICATIONS

This fixture is of the stem suspension type. The socket cover is constructed of No. 20 gauge brass which provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem, giving free access to the wiring connections. The patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting, and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

To the socket cover are rigidly attached three steel side rods which support the reflector by hooking into metal loops which are attached to the outer reflector.

A new patented hook construction makes it impossible for the reflector to become unhooked by accidental shock or vibration however, a hook can be instantly released, allowing the reflector to hinge downward for cleaning or relamping purposes.

#### WIRING AND INSTALLATION

Due to the high operating temperatures of the Bi-Post lamp, a specially constructed ventilated socket cover and socket mounting is used in this fixture to avoid the necessity of using special wires. Therefore, fixtures are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixure is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

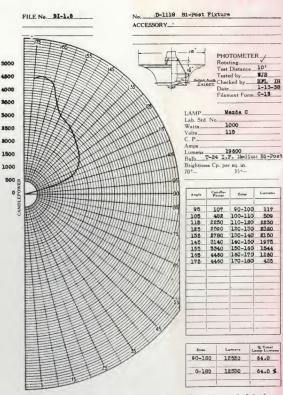
In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.



#### INSTALLATION DATA

The following table indicates spacing and mounting heights for the Bi-Post D 1118.

Ceiling Height	Spacing Between Outlets	Spaci from Wal	n	Suspension to Top Reflec	of
9 feet	9 fe	et 4	feet	18 in	ches
10 "	10 '	5	66	20	44
11 "	10-12 '	5	66	25	66
12 "	14 '	6	66	30	46
13 "	15 '	8_	66	30	66
15 "	18½ '		44	32	12
18 "	23	' 11½	66	42	66
20 "	26 '	' 13	44	48	46



Typical curve showing distribution of Light

#### THE BI-POST D1118 COMPLETE AS SHOWN

4		List Price				_	Dimensions Length			Standard Packa		
Catalog Number	Finish	Each Complete	Delivery Code	Lamp Wattage	Type Socket	Diam.	Stem Tube	Mtg. Hgt.	Length Overall	Quantity	Wt. Lbs.	
D 1118	Dull aluminum with polished edges	\$26.50	В	750-1000	Bi-Post	18	18	25	32	5	48	

Bi-Post D 1118 is supplied standard with MS 843 stem. Stems are available in standard lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard lengths, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

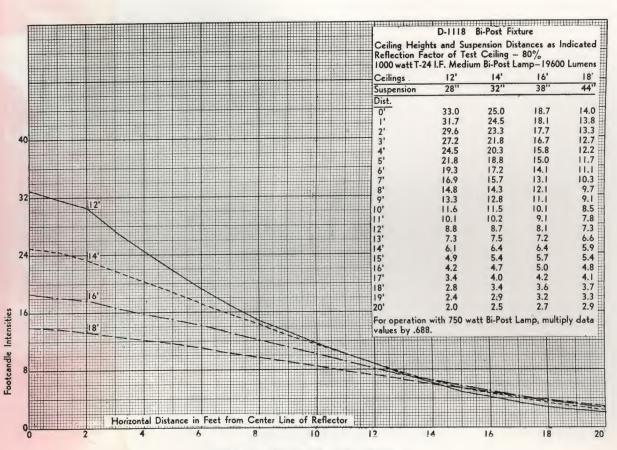
Mounting height is the distance from ceiling to top of reflector.

Extra length stem and wire, Dull Aluminum, \$.72 list per foot.

Canopy switch for 750-1000 watt Bi-Post Mazda lamps, \$3.00 list each.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.



The D 24 and D 26 SERIES

SEMI-INDIRECT DUPLEXALITE FIXTURES



Concentric metal Louvre available for use with D 26 Series DUPLEXALITE fixture, in place of standard glass bottom disc, will provide extra intensity of direct down light for close work or for the spotlighting of merchandise displays.

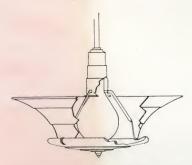
D 24 and D 26 Series DUPLEXALITE fixtures combine new beauty of design with the supplying of adequate and properly diffused light. In appearance and performance, they are ideal fixtures for the lighting of modern stores, offices, hotels, clubs and similar interiors. Engineered construction makes maintenance easy and economical. Reflector on both types is easily removable for cleaning or re-lamping. The D 24 Series have a white porcelain enameled bottom baffle as a part of the reflector, which reduces brightness of bottom disc and increases indirect light output.

#### FIXTURE SPECIFICATIONS

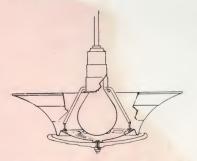
Both the D 24 and D 26 series Duplexalite fixtures are of the stem suspension type. The socket cover which is constructed of No. 20 gauge brass provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem giving free access to the wiring connections. The patented die cast hickey is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

To the socket cover are rigidly attached three steel side rods which support the reflector and glass bottom disc. The reflector is of steel, white porcelain enameled inside and

semi-gloss ivory outside. The glass bottom disc is of a high diffusing quality. In the D 26 series, the glass disc is held in place by the side rods. By merely raising the reflector and spreading the side rods, the glass can be removed for cleaning or relamping the fixture. In the D 24 series, the glass disc is held in place by the ornamental bottom knob. The bottom baffle in the D24 series increases indirect light output. Sufficient light filters through the bottom baffle to make the glass disc luminous and pleasing in appearance. The D 26 series does not have bottom baffle and is arranged so that concentric metal louvre may be used in place of standard glass bottom disc where extra intensity of downward light is desired.



Construction view D 26 series. Side rods hold glass bottom disc in place.



Construction view D 24 series. Glass bottom disc fastens to inner bottom baffle which is part of reflector.

#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 16 AF wire. Fixtures with Mogul sockets are supplied with No. 14 AF wire.

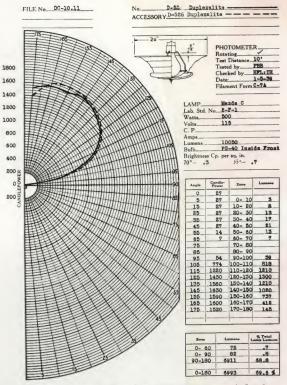
The special hickey construction permits the fixture to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and the resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill—no re-threading of parts is required.

This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the D24 and D26 Series.

Ceiling Height	Spacing Between Outlets	Spacing from Wall	Suspension Length to Top of Reflector
9 feet	8 feet	4 feet	18 inches
10 "	9 "	41/2 "	20 "
11 "	10 "	5 "	24 "
12-13 "	10-12 "	51/2 "	28 "
14-15 "	11-13 "	6 "	32 "
16-17 "	11-14 "	7 "	38 "
18-19 "	12-16 "	8 "	44 "
20 "	12-20 "	9 "	50 "



Typical curve showing distribution of Light

#### THE D 24 AND D 26 SERIES COMPLETE AS SHOWN

								— D	imension Length	s — Inc	hes —		
Catalog Number		Finish		List Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Length Overall	Std Qty.	. Pkg. Wt. Lbs.
D 224		Aluminu ry Reflec		\$16.00	В	200	Medium	16	18	241/2	30	1	14
D 524	64	46	66	19.00	A	300-500	Mogul	20	24	311/2	39	1	17
D 1024	6.6	66	4.6	26.00	В	750-1000	Mogul	24	30	391/2	48	1	22
D 226	64	46	66	14.50	В	200	Medium	16	18	241/2	30	1	12
D 526	66	46	66	17.00	A	300-500	Mogul	20	24	311/2	39	1	15
D 1026	44	44	44	24.00	В	750-1000	Mogul	24	30	$39\frac{1}{2}$	48	1	22
	D-26 SERIES	DUPLE	XALITE	<b>FIXTURES</b>	WITH	CONCENTRIC	LOUVRE	IN PL	ACE C	OF GL	ASS DI	SC	
D 226-H	1250 Nuvon Ivo	Aluminu ry Reflec		16.50	В	200	Medium	16	18	241/2	30	1	12
D 526-H	1251 "	64	44	19.00	$\mathbf{A}$	300-500	Mogul	20	24	311/2	39	1	15

Fixtures are supplied standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24, and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Nuvon aluminum finish is satin aluminum in appearance.

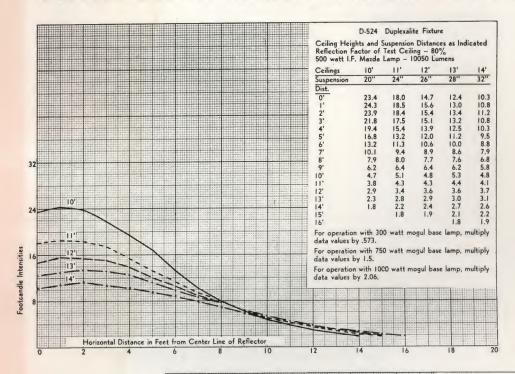
Extra length stem and wire, Nuvon, \$.72 list per foot.

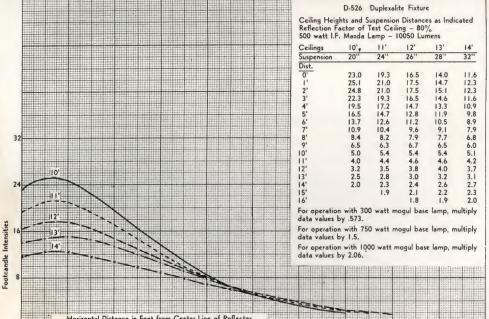
Standard canopy switch, \$1.80 list each.

#### REPLACEMENT DISCS SCHEDULE 2-B, F.O.B. FACTORIES

Catalog		List Price	Del.		s - Inches -	For Use		d Package
Number	Description	Each	Code	Diam.	Depth	Fixture No.	Qty.	Wt. Lbs.
6694x103/s	Lunastone	\$2.80	В	$10\frac{3}{8}$	11/2	D-224	5	25
6694x103/8	Frostone	2.80	В	$10\frac{3}{8}$	$1\frac{1}{2}$	D-226	5	25
6694x12	Lunastone	4.00	A	12	$1\sqrt[3]{4}$	D-524	5	33
6694x12	Frostone	4.00	A	12	$1\frac{3}{4}$	D-526	5	33
6694x13	Lunastone	4.50	A	13	$1\frac{3}{4}$	D-1024	5	38
6694x13	Frostone	4.50	A	13	$1\frac{3}{4}$	D-1026	5	38

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





# THE MILLER COMPANY

Note—Intensities shown are initial values.



A LUMINOUS BOWL INDIRECT
FIXTURE FOR USE WITH
THE BI-POST MAZDA
LAMP

The Bi-Post D1124 is a fixture that provides modern illumination in stores and offices to help build sales, speed work, and lower overhead costs. This smart new fixture uses the new Bi-Post MAZDA lamp, which makes it possible to secure a higher intensity of light from a smaller proportioned fixture. It delivers uniform light distribution on ceiling and working level - free from glare or deep shadows. High light output and efficient performance are insured by the white porcelain enamel inner surface of the reflector.

Soft, mellow light is transmitted through the Lunastone glass bottom disc, which reduces surface brightness. Permanent finish . . . low maintenance cost . . . makes this an ideal fixture for all commercial lighting purposes. Takes a 750 or 1000 watt Bi-Post MAZDA lamp.

#### FIXTURE SPECIFICATIONS

This fixture is of the stem suspension type. The socket cover which is constructed of No. 20 gauge brass provides adequate mechanical strength. The ceiling canopy, when released, slides down the stem giving free access to the wiring connections. The patented die cast hickey is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

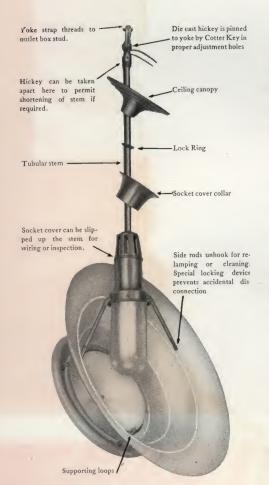
To the socket cover are rigidly attached three steel side rods which support the reflector and glass bottom disc. The reflector is finished in white porcelain enamel inside and semi-gloss ivory outside. The glass bottom disc is of a high diffusing quality and has three metal loops anchored in it. These metal loops hook to the side rods and cannot become loose or disconnected due to shock or vibration. A porcelain enameled insert is held in place by the ornamental bottom knob. This insert reflects the majority of the light in an upward direction. Sufficient light filters through the glass bottom disc to make it luminous and pleasing in appearance.

#### WIRING AND INSTALLATION

Due to the high operating temperatures of the Bi-Post lamp, a specially constructed ventilated socket cover and socket mounting is used in this fixture to avoid the necessity of using special wires. Therefore, fixtures are supplied equipped with standard medium Bi-Post socket and No. 14 A.F. wire.

The special hickey construction permits the fixture to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and the resultant hazard of shorted or grounded circuits encountered in ordinary hickey construction. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no rethreading of parts is required.

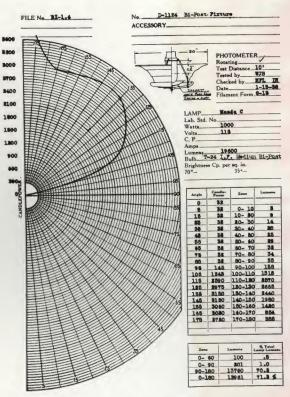
This hickey is die cast and is constructed in two parts, interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.



#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Bi-Post D1124.

Ceiling Height	Spacing Between Outlets	fr	om alls	Suspension to to Refle	_
9 Feet	9 Fe	eet 4	Feet	18 Ir	nches
10 "	10 '	5	66	20	66
11 "	10-12	" 5	44	25	66
12 "	14 '	6	66	30	66
13 "	15	8	46	30	66
15 "	181/2	8	66	32	66
18 "	23	111/2	2	42	44
20 "	26	" 13	66	48	66



Typical curve showing distribution of Light

#### THE BI-POST D1124 COMPLETE AS SHOWN

Catalog Number	Finish	List Price Each Complete	Delivery Code	Lamp Wattage	Type Socket	Diam.	Dimensions Length Tube Stem	Mtg. Hgt.	Length Overall	Std. Qty.	Pkg. Wt. Lbs.
D1124	Nuvon with semi-gloss Ivory reflector	\$26.00	В	750-1000	Bi-Post	20	24	32	39	5	55

Bi-Post D1124 is supplied standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24, and 30 inch. This assures faster delivery in that stocks of these standard length tubes are always available. In ordering other than standard length, the nearest stock length should be selected as special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included. Mounting height is the distance from ceiling to top of reflector.

Mounting height is the distance from ceiling to top of reflector Nuvon finish is satin aluminum in appearance.

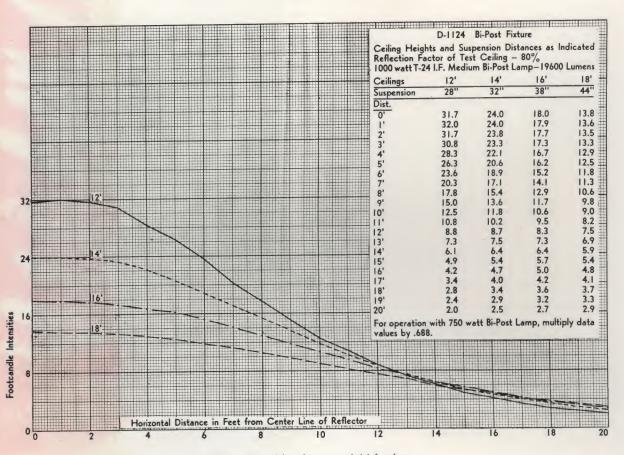
Extra length stem and wire, Nuvon, \$.72 list per foot.

Canopy switch for 750-1000 watt Bi-Post Mazda lamps, \$3.00 list each.

#### REPLACEMENT DISCS, SCHEDULE 2-B, F.O.B. FACTORIES

Catalog Number	List Price Each	Delivery Code	— Dimension Diam.	s — Inches — Depth	For use Fixture No.	Qty. Std	. Pkg. Wt. Lbs.
6694x12 Lunastone	\$4.00	A	12	11/2	D1124	5	22

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



Note-Intensities shown are initial values.

# THE MILLER COMPANY

**MERIDEN** 

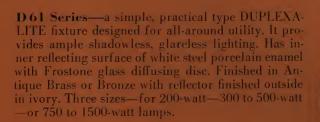
CONN.

# The D61 and D61 SERIES

SEMI-INDIRECT DUPLEXALITE FIXTURES



Concentric metal Louvre, available for use with D 61 and D 6134 series DUPLEX-ALITE fixtures in place of standard glass bottom disc, will provide extra intensity of direct down light for close work or the spotlighting of merchandise displays.





D61% Series is in every respect identical with D61 Series except that it has a stem suspension in place of chain. Simple, yet graceful and dignified in design, it will be a decorative as well as an effective source of good light in any room.

#### FIXTURE SPECIFICATIONS

These fixtures are of the suspension type, the D61 series being a chain suspension and the D613/4 series stem suspension fixtures. They are constructed of brass and steel parts in a gauge heavy enough to insure adequate mechanical strength. The body of the fixture is an assembly of a steel porcelain enameled reflector and a Frostone glass bottom disc. Three steel side rods, which are rigidly attached to the socket cover, support the glass bottom disc. Merely by raising the reflector and spreading the side rods, the glass bottom disc can be removed for cleaning or relamping. The ceiling canopy, when released, slides down the chain

or stem suspension giving free access to the wiring connections. The D 61 series has a cast iron hickey on a 3/8" threaded nipple and is tapped 3/8 iron for outlet box mounting. The D 613/4 series has a patented die cast hickey tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits these fixtures to swing through an angle of  $20^{\circ}$ .

Both types of fixtures can be supplied with a concentric louvre assembly instead of the glass disc where an extra intensity of downward light is desired.

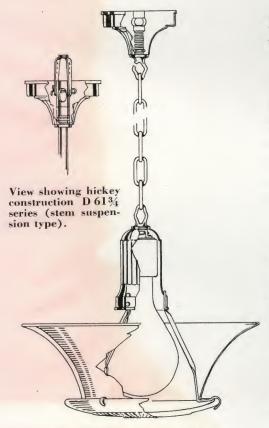
#### WIRING AND INSTALLATION

Fixtures having medium sockets are supplied with No. 18 AF wire. For mogul socket fixtures, No. 16 AF wire is supplied.

This hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly permitting a fixture to be shortened on the job.

The D 613/4 series has a die cast hickey on the fixture stem constructed in two parts and interlocked by a cotter key. The installer extracts the key and threads the upper half of the hickey to the stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing the lock ring, exposing the socket for easy wiring.

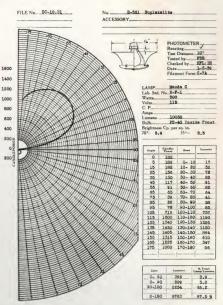


Construction View D 61 Series

#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the D61 and D613/4 Series.

Ceiling Height	Spacing Between Outlets	Spacing from Wall	Suspension Length to Top of Reflector
9 feet	8 feet	4 feet	18 inches
10 "	9 "	41/2 "	20 "
11 "	10 "	5 "	24 "
12-13 "	10-12 "	51/2 "	28 "
14-15 "	11-13 "	6 "	32 "
16-17 "	11-14 "	7 "	38 "
18-19 "	12-16 "	8 "	44 "
20 "	12-20 "	9 "	50 "



Typical curve showing distribution of Light

#### THE D61 AND D613/4 SERIES COMPLETE AS SHOWN

		List Price				-	Dimensions	- Inches	- 5	tandar	d Package
Catalog		Each	Del.	Lamp	Type		Length	Mtg.	Length	_	
Number	Finish	Complete	Code	Wattage	Socket		Tube Stem	Hgt.	Overall	Qty.	Wt. Lbs.
D 261	Bronze	\$10.50	A	200	Medium	14	_	25	30	1	-
D 261	Antique Brass	10.50	A	200	Medium	14	_	25	30	1	7
D 561	Bronze	13.00	A	300-500	Mogul	16	_	31	37	1	9
D 561	Antique Brass	13.00	A	300-500	Mogul	16	_	31	37	1	9
D 1061	Bronze	20.00	C	750-1500	Mogul	$22\frac{1}{2}$	-	$44\frac{1}{8}$	53	1	16
D 1061	Antique Brass	20.00	C	750-1500	Mogul	$22\frac{1}{2}$		441/8	53	1	16
D 26134	Bronze	11.50	C	200	Medium	14	18	25	30	1	7
D 26134	Antique Brass	11.50	C	200	Medium	14	18	25	30	1	7
D 2613/4	Nuvon Chrome	11.50	В	200	Medium	14	18	25	30	1	7
D 56134	Bronze	14.00	C	300-500	Mogul	16	24	$31\frac{3}{4}$	371/8	1	9
D 56134	Antique Brass	14.00	C	300-500	Mogul	16	24	$31\frac{3}{4}$	377/8	1	9
D 56134	Nuvon Chrome	14.00	В	300-500	Mogul	16	24	313/4	377/8	1	9
D 10613/4	Bronze	21.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	$39\frac{5}{8}$	403/4	1	16
D 106134	Antique Brass	21.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	395%	$40\frac{3}{4}$	1	16
D 106134	Nuvon Chrome	21.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	39 1/8	403/4	1	16
, -	D 61 A	ND D 613/4	SERIE	S DUPLEXA	LITE FIXT	URES V	VITH				
	CONCENT	RIC LOUV	RE AS	SEMBLY IN	PLACE (	OF GLA	ASS DISC				
D 561-H 1250	Bronze	15.00	A	300-500	Mogul	16		31	37	1	11
D 561-H 1250	Antique Brass	15.00	A	300-500	Mogul	16		31	37	1	11
D 1061-H 1251	Bronze	22.00	C	750-1500	Mogul	$22\frac{1}{2}$		441/8	53	1	16
D 1061-H 1251	Antique Brass	22.00	C	750-1500	Mogul	$22\frac{1}{2}$		441/8	53	1	16
D 5613/4-H 1250	Bronze	16.00	C	300-500	Mogul	16	24	313/4	371/8	1	11
D 56134-H 1250	Antique Brass	16.00	C	300-500	Mogul	16	24	313/4	$37\frac{7}{8}$	1	11
D 56134-H 1250	Nuvon Chrome	16.00	В	300-500	Mogul	16	24	$31\frac{3}{4}$	377/8	1	11
D 106134-H 1251	Bronze	23.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	395/8	403/4	1	16
D 106134-H 1251	Antique Brass	23.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	395/8	403/4	1	16
D 106134-H 1251	Nuvon Chrome	23.00	C	750-1500	Mogul	$22\frac{1}{2}$	30	$39\frac{5}{8}$	403/4	1	16
I 11' C-		uon and Dal	ichad (	hrome							

Louvre assemblies finished standard Nuvon and Polished Chrome. Fixtures are supplied standard not wired. Wire and socket included. Extra length stem and wire, Nuvon Chrome, \$.72 list per foot. Extra length stem and wire, Bronze or Antique Brass, \$.72 list per foot.

Extra length chain and wire, Bronze or Antique Brass, \$.24 list per foot.

Standard Canopy switch, \$1.80 list each. Tri-Lite Canopy switch, \$1.80 list each.

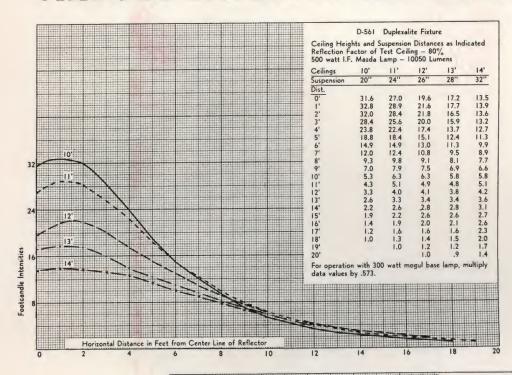
Canopy switch for 750-1500 watt lamps, \$3.00 list each.

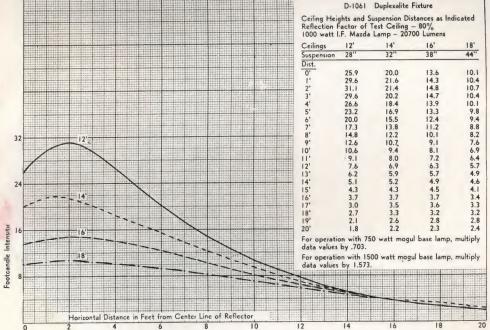
Fixtures supplied with Tri-Lite socket at \$.75 list each additional. Add TRI to catalog number when desired this way.

DEDI ACEMENT DISCS	SCHEDIILE 2 B	FOR	FACTORIES

Catalog		List Price	Del.	-Dimensio	ns—Inches—	For Use		. Pkg.
Number	Description	Each	Code	Diam.	Depth	Fixture No.	Qty.	Wt. Lbs.
6109x9	Frostone	\$2.25	A	9	11/4	D 261 -D 2613/4	5	20
	***	2.80	A	103/8	$1\frac{1}{2}$	D 561 -D 5613/4	5	25
$6109 \times 10\%$	Frostone		A	1078	1172		5	
$6109 \times 12$	Frostone	4.00	C	12	$1\frac{1}{2}$	D 1061-D 10613/4	Э	33

# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





MERIDEN

CONNECTICUT

Sec. 2B, Page 39, February 1, 1939



					— Dir	nensions	- Inch	ies —		
						Lgth.			Std.	Pkg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 584	Nuvon Aluminum Body, Polished Edges with Black as shown	\$58.00	D	300-500	19	24	33	42	1	40
D 1084	Nuvon Aluminum Body, Polished Edges with Black as shown	88.00	D	750-1500	263/4	30	41	52	1	55

Nuvon Aluminum is satin aluminum in appearance.

c. 2B, Page 40, February 1, 1939



					-Dimen	sions-I	nches-	Std. I	kg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 515	Nuvon Aluminum with Black as shown	\$45.00	D	300-500	20	31	40	1	25
D 1015	Nuvon Aluminum with Black as shown	68.00	D	750-1500	26	42	54	1	35

Nuvon Aluminum is satin aluminum in appearance.

Sec. 2B, Page 41, February 1, 1939



			— Dimensions — Inches —								
						Lgth.			Std. Pkg.		
Catalog		List	Del.	Lamp		Tube	Mtg.	Lgth.		Wt.	
Number	Standard Finish	Price	Code	Wattage	Diam.	Stem	Hgt.	Overall	Qty.	Lbs.	
D 516	Nuvon Aluminum with Polished Edges	\$40.00	В	300-500	201/2	24	$31\frac{1}{2}$	$40\frac{1}{2}$	1	14	
D 1016	Nuvon Aluminum with Polished Edges	58.00	В	750-1500	28	30	40	53	1	20	

Nuvon Aluminum is satin aluminum in appearance.

Sec. 2B, Page 42, February 1, 1939



					—D	imension Lgth.	s—Inch	es→	Std.	Pkg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 271	Antique Brass	\$14.50	C	200	14	—	25	33	1	9
D 571	Antique Brass	18.00	C	300-500	16	_	31	40	1	11
D 2223/4	Nuvon Aluminum with Polished Edges	17.00	D	200	18	18	25	31	1	10
D 5223/4	Nuvon Aluminum with Polished Edges	21.00	D	300-500	24	24	31	38	1	12

Nuvon Aluminum is satin aluminum in appearance.

Sec. 2B, Page 43, February 1, 1939



					— Dim	ensions — I	nches —	Std.	Pkg.
Catalog		List	Del.	Lamp		Mtg.	Lgth.		Wt.
Number	Standard Finish	Price	Code	Wattage	Diam.	Hgt.	Overall	Qty.	Lbs.
D 586	Bronze with Brass Trim	\$53.00	D	300-500	17	36	43	1	35

Sec. 2B, Page 44, February 1, 1939



						<ul> <li>Dimension</li> </ul>	s - Inches	_		
						Lgth.			Std.	Pkg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 263	Light Bronze	\$9.00	В	200	14		25	30	1	7
D 563	Light Bronze	10.00	В	300-500	16	-	26	32	1	9
D 2633/4	Light Bronze	9.00	В	200	14	18	25	30	1	7
D 5633/4	Light Bronze	10.00	В	300-500	16	18	26	32	1	9

Sec. 2B, Page 45, February 1, 1939



					— Dime	nsions — In	ches -	Std. I	Pkg.
Catalog		. List	Del.	Lamp		Mtg.	Lgth.		Wt.
Number	Standard Finish	Price	Code	Wattage	Diam.	Hgt.	Overall	Qty.	Lbs.
D 1017	Bronze with Brass Trim	\$135.00	D	750-1500	24	44	55	1	45

Sec. 2B, Page 46, February 1, 1939



					-	- Dimensions Lgth.	— Inches —		Std.	Pkg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 240	Nuvon Aluminum	\$9.50	В	100-200*	$13\frac{1}{2}$	_	-	$13\frac{1}{4}$	1	6
D 240	Ivory and Gold	10.00	В	100-200*	$13\frac{1}{2}$	_		$13\frac{1}{4}$	1	6
D 5413/4	Nuvon Aluminum	25.00	D	300-500	20	24	35	43	1	20

Nuvon Aluminum is satin aluminum in appearance.

<sup>\*</sup>A GE 119 socket extension must be used in the D 240 when used with 100 watt lamp.

Sec. 2B, Page 47, February 1, 1939



					Manage Contract of the Contrac	Dimension	s — Inche	es -	Std.	Pkg.
Catalog Number	Standard Finish	List Price	Del. Code	Lamp Wattage	Diam.	Tube Stem	Mtg. Hgt.	Lgth. Overall	Qty.	Wt. Lbs.
D 10413/4	Nuvon Aluminum	\$42.00	D	750-1500	$27\frac{1}{2}$	30	44	56	1	25
D 154134	Nuvon Aluminum	65.00	D	750-1500	37	36	50	66	1	35
DM 28	Nuvon Aluminum	15.00	D	100	12	_	_	10	1	12
DM 29	Nuvon Aluminum	22.50	D	200	16	_	_	14	1	15

Nuvon Aluminum is satin aluminum in appearance.

Sec. 2B, Page 48, February 1, 1939



					Dim	ensions — I	nches —	Std.	Pkg.
Catalog	0 1 171 11	List	Del.	Lamp	70.4	Mtg.	Lgth.		Wt.
Number	Standard Finish	Price	Code	Wattage	Diam.	Hgt.	Overall	Qty.	Lbs.
D 508	Bronze	\$47.50	D	300-500	2017	40	501/	1	50
D 900	Dronze	\$47.3U	D	300-300	$20\frac{1}{2}$	40	$50\frac{1}{2}$	1	50
T. 7.000		0= 00	_						
D 1008	Bronze	87.00	D	750-1500	30	55	65	1	65

### Accessories for Use with **Duplexalite Fixtures**



Metal rings fit over reflector of fixture as shown. Desirable for use where a more decorative effect is



Decorative metal tassels are made



**Bottom Baffles** Nos. H 704 and H 705

These baffles of non-tarnishing Alzak aluminum increase the indirect light output and reduce brightness plete with bottom knob which is finished to match fixture and attach



DR 801



Rings Nos. DR 800 and DR 801 are made to fit various sizes of Duplexalite fixtures. They slip over reflector as shown above.

Catalog Number	Description	List Price	Del. Code
	to fit 300-500 watt Duplexalite fixture	\$5.00	C
	to fit 300-500 watt Duplexalite fixture to fit 750-1500 watt Duplexalite fixture	$\frac{4.75}{10.00}$	D
	to fit 750-1500 watt Duplexalite fixture	10.00	D
DT 200 DT 500	Metal tassel to fit 200 watt Duplexalite fixture Metal tassel to fit 300- 500 watt Duplexalite fixture	.50 .70	B B
DT 1000	Metal tassel to fit 750-1500 watt Duplexalite fixture	2.00	C
H 704 H 705	Baffle to fit 300-500 watt Duplexalite fixture Baffle to fit 750-1500 watt Duplexalite fixture	$\frac{1.50}{1.50}$	B
H 103	Danie to ht 100-1000 watt Duplexante uxture	2.00	

## DUPLEXALITE

Sec. 2B, Page 49, February 1, 1939

S	ta	nd	la	rd	F	in	isl	1
---	----	----	----	----	---	----	-----	---

Standard Finish									
Bronze or Antique									
Bronze or Antique									
Bronze or Antique									
Bronze or Antique									
Bronze or Antique	Brass								
Bronze or Antique	Brass								
Bronze or Antique	Brass								
Aluminum									
Aluminum									

Sec. 2B, Page 50, February 1, 1939

# A Partial List of Prominent Installations

#### SCHOOLS AND LIBRARIES

Glendale High School, Gleonale, Calif.
Reedley High School, Reedley Cal.
Reedley High School, Santa Ann. Calif.
Santa Mara High School, Santa Ann. Calif.
Santa Maria High School, Santa Maria. Calif.
Santa Maria High School, Selma, Calif.
Junior High School, New Canaan, Conn.
Bedford Junior High School, Westport, Conn.
Weast Hartford Schools, West Hartford, Corn.
Gunston Hall School for Girls, Washington, D. C.
High Schools, Washington, D. C.
Howard University, Washington, D. C.
LaSalle Extension University, Cricago, III.
Loyola High School, Baltimore, Md.
Christian Science Church and Reading Room Pitteful and Braten, Mass.
Botany Building, Wellesley College, Wellesley, Mass.
Botany Building, Wellesley College, Wellesley, Mass.
Pontiac Public Schools, Pontiac, Michigan.
Centenary Collegiate Institute, Hackettstown, N. J.
Public School No. 8, Linden, N. J.
Morristown Library, Morristown, N. J.
Newton Vocational School, Newton, N. J.
Newton Vocational School, Rutherford, N. J.
Washington School, Rutherford, N. J.
Pace and Pace School of Accountancy, New York, N. Y.
Public Libraries, Rochester, N. Y.

Duke University, Durant N. C.

Treater Greenshore Ultak School, Contraducto N. C.

University North Carelina Women's College, Greenshore, N. C.

Blind School of Orio, Columbus, Orio,
State School for the Bline, Columbus, Orio,
State School for the Bline, Columbus, Orio,
Holy Rede are Gathale Ultak School, Procession,
Pertland High School, Columbus, Origina,
Relson High School, Proceeding, P.

Hershey High School, Hardsburg, P.

Hershey High School, Hardsburg, P.

Penn State College, State College, Pa
Yeadon Public Schools, Yeadon, Pa:
Law Library, Vanderbilt University, Nashville, 1000
Utah Agricultural College, Linen, High.
Law Building, University of Vargina, Charlette wille, Va.

University of Wisconsin, Medison, Wisconsin,
City Schools, Carelination, S. C.

Charlotte Public Library, Charlette, N. C.

Main and Law Libraries, University of North Carolina, Chaptelli, N. C.

College of Charleston, Charletten, S. C.

College of Charleston, Charletten, S. C.

College of Charleston, Charletten, S. C.

Junior High School, Salem, Oregon,
Bered College Library, Beled, Ky.

Public Library, Collar Rapids, Iowa

#### HOSPITALS AND SIMILAR INSTITUTIONS

HOSPITALS

Southern California-Lutheran Hospital, Los Angeles, Calif. Highland Hospital, Oakland, Calif. California State Hospital, Sacramento, Calif. Mercy Hospital, Denver Colorado. Municipal Hospital, Hartford, Conn. Gallinger Hospital, Hartford, Conn. Gallinger Hospital, Washington, D. C. United States Soldiers Home, Washington, D. C. Lakeland City Hospital, Lakeland, Fla. Lake Wales Hospital, Lake Wales, Fla. Providence Hospital, Kansas City, Kansas. Baltimore City Hospital, Baltimore, Md. John Hopkins Hospital, Baltimore, Md. John Hopkins Hospital, Baltimore, Md. Wilmer Eye Institute, Baltimore, Md. Wilmer Eye Institute, Baltimore, Md. Baker Clinic, Boston, Mass. Beth Israel Hospital, Boston, Mass. Home for Incurables, Boston, Mass. Malden Hospital, Malden, Mass. Battle Creek Sanitarium, Battle Creek, Michigan. Herry Ford Hospital, Nurses Home, Detroit, Michigan. Hermy Ford Hospital, Nurses Home, Detroit, Michigan. Hermy Ford Hospital, Peterson, N. J. Clifton Springs Sanitarium, Clifton Springs, N. Y. Medina Memorial Hospital, Medina, N. Y.

Rochester General Hospital, Rochester, N. Y.
Ellis Hospital, Schenectady, N. Y.
Masonic Soldiers and Sailors Memorial Hospital, Utica, N. Y.
N. Y. State Hospital for Insane and Feeble Minded,
various parts of the State.
Randolph Hospital, Asheboro, N. C.
Duke University Hospital, Durham, N. C.
Sternberger Memorial Hospital, Greensboro, N. C.
Lee County Hospital, Sanford, N. C.
Memorial Hospital, Thomaswille, N. C.
Akron City Hospital, Akron, Ohio.
St. Luke's Hospital, Akron, Ohio.
Youngstown General Hospital, Youngstown, Ohio,
St. Luke's & Children's Homepathic Hospital, Philadelphia, Pa.
Wills Eye Hospital Philadelphia, Pa.
York General Hospital, York, Pa.
Roper Hospital, Charleston, S. C.
Latter Day Saints Hospital, Salt Lake City, Utah,
Norfolk Naval Hospital, Valender, Va.
Ohio Valley Hospital, Wheeling, W. Va.
New York Hospital, Cornell Medical Center, New York N. Y.
Cabarras Hopital, Cornell Medical Center, New York N. Y.
Cabarras Hopital, Summerville, S. C.

#### OFFICE BUILDINGS

Beaux Arts Building, Los Angeles, Calif.
Board of Trade Building, Los Angeles, Calif.
Oviatt Building, Los Angeles, Calif.
Oviatt Building, Los Angeles, Calif.
Pacific Mutual Buildings, Los Angeles, Calif.
Richfield Oil Company Building, Los Angeles, Calif.
Richfield Oil Company Building, Los Angeles, Calif.
Texas Oil Company Building, Los Angeles, Calif.
Texas Oil Company Building, Los Angeles, Calif.
Title Insurance Building, Los Angeles, Calif.
Title Insurance Building, Los Angeles, Calif.
Title Insurance Building, Los Angeles, Calif.
Canada Life Assurance Company, Toronto, Canada.
Connecticut General Life Insurance Co., Hartford, Conn.
Phoenix Mutual Life Insurance Co., Hartford, Conn.
Cltizens & Southern National Bank Bldg., Atlanta, Ga.
Worton Building, Chicago, Ill.
Strauss Building, Chicago, Ill.
Strauss Building, Chicago, Ill.
Lincoln National Life Insurance Company, Fort Wayne, Indiana.
Chamber of Commerce Building, Indianspolis, Indiana.
New Orleans Public Service Company, New Orleans, La.
Baltimore Life Insurance Company, Baltimore, Md.
American Mutual Insurance Company, Baltimore, Md.
American Mutual Insurance Company, Boston, Mass.
John Hancock Mutual Life Insurance Company, Boston, Mass.
Lee Higginson Building, Boston, Mass.
Liberty Mutual Insurance Company, Boston, Mass.
Massaschusetts Mutual Life Insurance Company, Kansas City, Mo.
Shell Oil Building, St. Louis, Mo.
Congoleum Nairn Building, Kearny, N. J.
Mutual Benefit Life Insurance Company Building, Newark, N. J.
Acacia Mutual Life Insurance Company Building, Newark, N. J.
Acacia Mutual Life Insurance Company, New York, N. Y.
General Electric Company, New York, Albany, N. Y.
General Electric Company, New York, N. Y.
National Broadcasting Company, Radio City, New York, N. Y.
Provident Loan Society, New York, N. Y.
Jefferson Standard Life Insurance Company, Greensboro, N. C.

Pilot Life Insurance Company, Greensboro, N. C.
First Central Tower Building, Akron, Ohio.
Ohio Edison Building Akron, Youngstown, Ohio.
Cleveland Terminal Building Group, Cleveland, Ohio.
Hanna Building. Cleveland, Ohio.
Fifth Third Union Trust Company, Cincinnati, Ohio.
Fortieth South Third Street Building, Columbus, Ohio.
Oregon State Life Insurance Company, Portland, Oregon.
Pacific Building, Portland, Oregon.
Armstrong Cork Company, Lancaster, Pa.
Chamber of Commerce Building, Eric, Pa.
Fidelity Mutual Life Insurance Company, Philadelphia, Pa.
Fire Association of Philadelphia, Philadelphia, Pa.
Pennsylvania Railroad Building, Philadelphia, Pa.
Pennsylvania Railroad Building, Philadelphia, Pa.
Provident Mutual Life Insurance Company, Philadelphia, Pa.
Provident Mutual Life Insurance Company, Philadelphia, Pa.
Koppers Building, Pittsburgh, Pa.
Medical Arts Building, Knoxville, Tenn.
Gulf Building, Houston, Texas.
National Life Insurance Company, Stevens Point, Wisconsin.
South Carolina Power Company, Charleston, S. C.
Burlington Mills Corp., Greensboro, N. C.
Howe Bank Building, Los Angeles, Calif.
Carborundum Company, Niagara Falls, N. Y.
Gulf States Insurance Building, Dallas, Texas.
Southwestern Life Insurance Building, Dallas, Texas.
Southwestern Life Insurance Building, Dallas, Texas.
U. S. Rubber Company, Kansas City, Mo.
Sonora Manufacturing Company, Kansas City, Mo.
Naval Aircraft Factory Office, Philadelphia, Pa.
Statler Office Building, Boston, Mass.
Liberty Mutual Insurance Company, Boston, Mass.

# A Partial List of Prominent Installations

DUPLEXALITE

Sec. 2B, Page 51, February 1, 1939

#### STORES AND FINE SHOPS

Birmingham Gas Company, Birmingham, Alabama.
Alabama Power Company, Godsden, Alabama.
Alabama Power Company, Godsden, Alabama.
David Spencer & Company, Ldt, Vancouver, B. C.
Barker Brothers, Los Angeles, Hollywood and Long Beach, Calif.
Birch-Smith Furniture Company, Los Angeles, Calif.
The Emporium, San Francisco, Calif.
Pacific Gas and Electric Company, San Francisco, Calif. and branches.
G. Fox & Company, Hartford, Conn.
Connecticut Light & Power Co., Norwalk, Rockville, Conn.
Florida Power & Light Building, Miami, Fla.
Tampa Electric Company, Tampa, Fla.
Alexander Seewald Company, Atlanta, Ga.
Marshall Field Company, Oak Park, Evanston, Ill.
Illinois Power Company, Oak Park, Evanston, Ill.
Chandler & Company, Dept. Store, Boston, Mass.
Edison Electric Illuminating Co., Boston, Mass.
Jordan Marsh Company, Boston, Mass.
Wm. Filene & Sons Dept. Store, Boston, Worcester, Wellesley,
Mass. and York, Me.
Forbes & Wallace Company, Springfield, Mass.
Ernst Kern Company, Detroit, Michigan.
Union Gas & Electric Company, St. Louis, Mo.
Jersey Central Power & Light Co., Long Branch, Lakewood,
Morristown, Millburn, Atlantic Highlands, N. J.
Philip H. Harrison & Company, Newark, N. J.
Coleman Halloran Company, Paterson and Passaic, N. J.
Rex Cole, Inc., New York City, Brooklyn, Jamaica, Bronz,
Queens Village, N. Y.
The Namm Store, Brooklyn, N. Y.
Westchester Lighting Company, Mt. Vernon, N. Y.

New York Edison Company, New York City.
Bonwit-Teller. New York, N. Y.
Pound & Moore, Charlotte, N. C.
Duke Power Company, Charlotte, N. C.
Duke Power Company, Charlotte, N. C.
Duke Power Company, Charlotte, N. C.
North and South Carolina.
Durham Public Service Company, Durham, N. C.
Sosnicks, Winston-Salem, N. C.
A. Polsky Department Store, Akron, Ohio.
M. O'Neil Department Store, Akron, Ohio.
Ohio Public Service Company, Alliance, Warren, Cleveland, O.
Higbee Company, Cleveland, Ohio.
Dayton Power & Light Company, Dayton, Ohio.
East Ohio Gas Company Lina, Ohio.
Ohio Power Company, Portsmouth, Ohio.
Meier and Frank Department Store, Portland, Oregon.
Knoxville Power & Light Company, knoxville, Tenn.
Titche-Coettinger Department Store, Dallas, Texas.
Levy Bros. Dry Goods Company, Houston, Texas.
Milwaukee Electric Rwy, & Light Company, Milwaukee, Wis.
Wallate Store, Schenectady, N. Y
Ivey's Inc., Ashville, N. C.
Bon Marche, Ashville, N. C.
Bon Marche, Ashville, N. C.
Myers-Arnold Company, Greenville, S. C.
J. S. Coker Company, Huntsville, S. C.
J. B. Ivey Company, Charlotte, N. C.
Marston Department Store, Dayton, Ohio.
Block Department Store, Indiana,
Fitz-Smth Dry Goods Company, Kansas City, Mo.

#### HOTELS AND CLUBS

Thos, Jefferson Hotel, Birmingham, Alabama.
Westward Ho Hotel, Phoenix, Arizona.
Tattersall's Clubs, Sydney and Brisbane. Australia.
Alexandria Hotel, Los Angeles, Calif.
Biltmore Hotel, Los Angeles, Calif.
Del Coronado Hotel, Gronado Beach, Calif.
Clift Hotel, San Francisco, Calif.
Fairmont Hotel, San Francisco, Calif.
Mark Hopkins Hotel, San Francisco, Calif.
St. Francis Hotel, San Francisco, Calif.
St. Francis Hotel, San Francisco, Calif.
Str Francis Hotel, San Francisco, Calif.
Engineers Club, Toronto, Canada.
Hotel Bond, Hartford, Conn.
Club House, Narragansett Race Track, R. I.
Mayflower Hotel, Washington, D. C.
New Williard Hotel, Washington, D. C.
Weatchester & Shoreham Apartment Hotels, Washington, D. C.
Weatchester & Shoreham Apartment Hotels, Washington, D. C.
Breakers Hotel, Palm Beach, Fla.
Whitchall Hotel, Palm Beach, Fla.
Miami Biltmore Hotel, Coral Cables, Fla.
New Indian River Hotel, Rockledge, Fla.
Biltmore Hotel, Atlanta, Ga.
Bon Air Vanderbilt, Augusta, Ga.
Palmer House, Chicago, Ill.
Keenan Hotel, Fort Wayne, Indiana.
Hotel Touraine, Boston, Mass.
Kimball Hotel, Springfield, Mass.

Kimball Hotel, Springfield, Mass.

Detroit Leland Hotel, Detroit, Michigan, Book Cadillac Hotel, Detroit, Michigan Curtis Hotel, Minneapolis, Minn. Muchibach Hotel, Kansas City, Mo. Elks Club, Perth Amboy, N. J., Erre, Pa., Johnston, Pa., Barberton, Ohio. Palatine Hotel, New York City Hotel Bristol, New York City. Lotos Club, New York City. Lotos Club, New York City. Lotos Club, New York City. Ritz Carlton Hotel, New York City. Ritz Carlton Hotel, New York City. Nelson House, Poughkeepsie, N. Y. Westchester Country, Club, Rye, N. Y. Mayfair Manor, Charlotte, N. C. Akron Hotel, Akron, Ohio. Anthony Wayne Hotel, Akron, Ohio. City Club, Akron, Ohio. Hotel Cleveland, Cleveland, Ohio. Hotel Cleveland, Cleveland, Ohio. Hotel Cleveland, Cleveland, Ohio. Masonic Building, Akron, Ohio. Masonic Building, Akron, Ohio. Masonic Temple, North Akron, Ohio. Secar Hotel, Toledo, Ohio. Adelphia Hotel, Philadelphia, Pa. Duquesne Club, Pittsburgh, Pa. Hendler Hotel, Johnstown, Pa. Chamberlain Vanderbilt, Old Point Comfort, Va. Washington Hotel Seattle, Washington Charlotte Hotel, Charlotte, N. C. O'Henry Hotel, Greensboro, N. C.

#### BANKS AND PUBLIC BUILDINGS

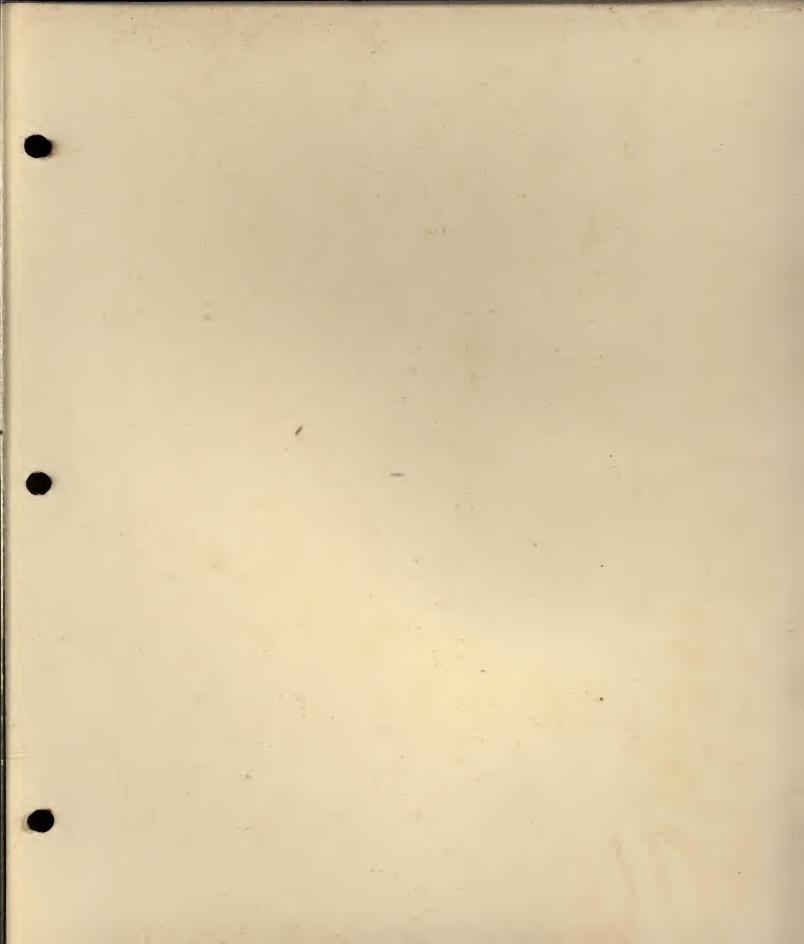
Mobile Bank & Trust Company, Mobile, Alabama.
Banco Nacional Ultramarino, Rio de Janeiro, Brazil.
Anglo-London & Paris National Bank, San Francisco, Calif.
Bank of America, Hollywood, Calif., Los Angeles, San Francisco and branches
California Bank, Los Angeles, Beverley Hills and branches, Cal.
Pacific Finance Company, Los Angeles, Calif.
Federal Reserve Bank, San Francisco, Calif. and Baltimore, Md.
Hartford Fire Insurance Company Building, San Francisco, Cal.
Canada Permanent Mortgage Company, Toronto, Canada.
Toronto General Trust Company, Toronto, Canada.
Toronto General Trust Company, Toronto, Canada.
Bristol Trust Company, Bristol, Conn.
Mutual Bank & Trust Company, Hartford, Conn.
Japanese Embassy, Washington, D. C.
Russian Embassy, Washington, D. C.
Russian Embassy, Washington, D. C.
Washington & Mechanics Savings Bank, Washington, D. C.
Safe Deposit & Trust Company, Baltimore, Md.
Mass. State Office Bldg., Boston, Mass.
Webster & Atlas National Bank, Boston, Mass.
Cambridge Trust Company, Cambridge, Mass.
Federal Land Bank Bulding, Springfield, Mass.
Detroit Water Board Bldg., Detroit, Michigan.
Midland Bank Bldg., Detroit, Michigan.
Union Trust Bldg., Detroit, Michigan.

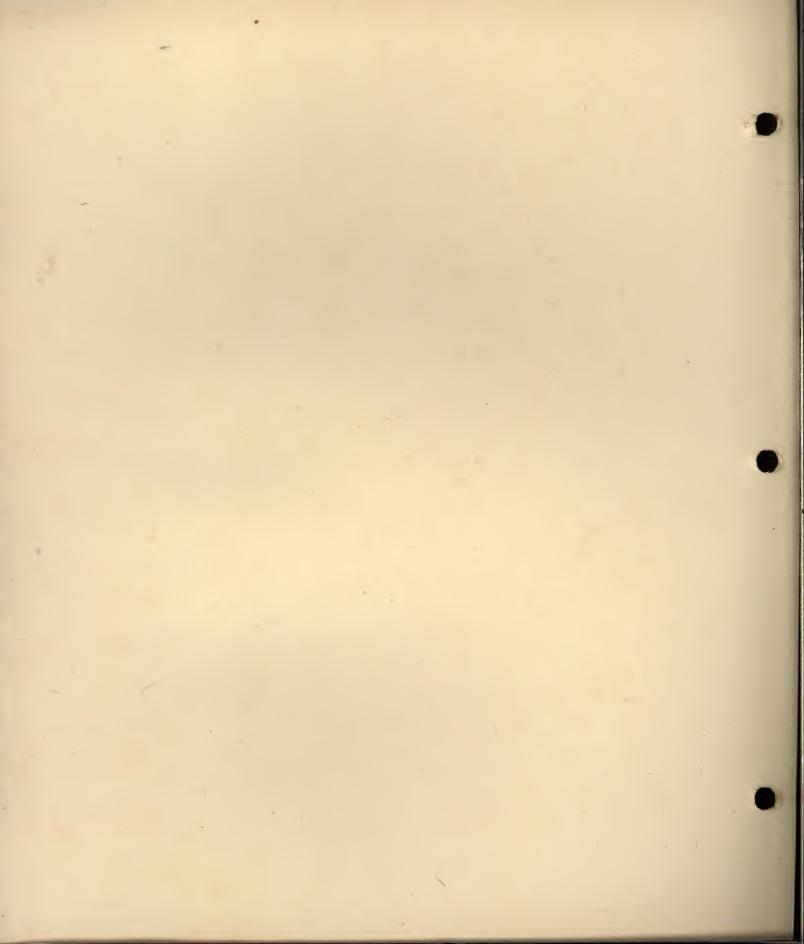
Buffalo Courier Express, Buffalo, N. Y.
Buffalo Niagara Eastern Power Company, Buffalo, N. Y.
Holy Name Rectory, New York City.
Metropolitan Museum, New York City.
Duchess County Court House, Poughkeepsie, N. Y.
Chamber of Commerce Building, Rochester, N. Y.
Rochester Gas and Electric Company, Rochester, N. Y.
First National Bank and Trust Company, Ponkers, N. Y.
Durham Bank & Trust Company, Durham, N. C.
Morris Plan Banka, Charlotte, Winston-Salem, Greensboro, N. C.
Raleigh Banking & Trust Company, Raleigh, N. C.
Municipal Building, Akron, Portsmouth, Ohio.
Times Star Building, Cincinnati, Ohio.
Board of Education Building, Cleveland, Ohio.
Administration Building, Hershey, Pa.
Community Center, Hershey, Pa.
The Tabernacle, Salt Lake City, Utah.
Federal Reserve Bank, Richmond, Va.
American Trust Company, Charlotte, N. C.
Charlotte News, Charlotte, N. C.
Old National Bank, Evansville, Ind.
National City Bank Building, Los Angeles, Calif.
Pierce Building, St. Louis, Mo.
Terminal Building, St. Louis, Mo.
Santa Fe Building, St. Louis, Mo.
Santa Fe Building, Nansas City, Mo.
Insurance Exchange Building, Kansas City, Mo.
Suffolk County Court House, Boston, Mass.

Sec. 2B, Page 52, February 1, 1939

## INDEX

CAT) NO.	PAGE NO.	CAT. NO.	PAGE NO.
DM 28	47	D 563¾	44
DM 29	47	D 571	42
D 218	19-20-21-22	D 584	39
D 222¾	42	D 586	43
D 224	27-28-29-30	D 1008	48
D 226	27-28-29-30	D 1015	40
D 226-H 1250	27-28-29-30	D 1016	41
D 240	46	D 1017	45
D 261	35-36-37-38	D 1018	19-20-21-22
D 261¾	35-36-37-38	D 1024	27-28-29-30
D 263	44	D 1026	27-28-29-30
D 263 <sup>3</sup> / <sub>4</sub>	44	D 1036	15-16-17-18
D 271	42	D 10413/4	
D 508		D 1061	
D 515		D 1061-H 1251	
D 516		D 1061¾	35-36-37-38
		D 1061¾-H 1251 .	
D 518		D 1084	
D 5223/4	42	D 1118	23-24-25-26
D 524	27-28-29-30	D 1124	
D 526	27-28-29-30	D 15413/ <sub>4</sub>	47
D 526-H 1251	27-28-29-30	H 704	49
D 536	15-16-17-18	H 705	
D 541 <sup>3</sup> / <sub>4</sub>		DR 800-500	
D 561		DR 800-1000	
D 561-H 1250		DR 801-500	
		DR 801-1000	
D 5613/4		DT 200	
D 561¾-H 1250		DT 500	
D 563	44	DT 1000	49





# MILLER LIGHTING FIXTURES FOR USE WITH SILVERED BOWL MAZDA LAMPS

More light . . . Better Light . . . Lower Maintenance Cost . . . that's the story of the Silvered Bowl MAZDA Lamp in a few words.

They tell why these lamps are working wonders in the lighting of stores, offices, hotels and similar places of business.

Silvered Bowl MAZDA lamps, in the Miller fixtures designed especially for their use, give a new flexibility in the use of lighting that —

Helps sell more merchandise;

Increases the efficiency and raises the morale of office workers;

Lends an atmosphere of pleasant, welcome comfort to any commercial interior.

What is the Silvered Bowl MAZDA Lamp? It is a regular MAZDA lamp, coated on the inside of the bowl with "mirror" silver. The lamp is its own reflector, and delivers a quantity of light greatly in excess of a regular MAZDA lamp of the same wattage.

There is no glare for the silvered bowl conceals the filament and softens surface brightness.

### Lower Maintenance Costs

Maintenance costs are lowered, for it is necessary to wipe the silvered bowl lamp only occasionally to secure maximum benefits. As the "mirror" silver coating does not dull, tarnish or deteriorate, it maintains greater light output through the life of the lamp. In the new Miller fixtures the entire problem of maintenance is simplified, for they permit removal of the lamp for replacement without disturbing the fixture itself.

The new Miller Lighting Fixtures for use with Silvered Bowl MAZDA Lamps are shown on the following pages. They are styled to harmonize with the newest ideas in commercial decoration.

### TYPICAL INSTALLATIONS



Allied Factory Mutual Insurance Co., Boston, Mass. Miller Upton fixtures installed using 500 watt Silvered Bowl lamps. Spaced 10 by 12 feet. Ceiling height, 10 feet. Average footcandle intensity, 21-26.



Portland Electric Power Co., Portland, Oregon. Miller Upton fixtures installed using 500 watt Silvered Bowl lamps. Spaced 10 by 10 feet. Ceiling height, 9 feet. Average footcandle intensity, 30.

### MILLER

### TYPICAL INSTALLATIONS



E. W. Edwards & Son, Buffalo, New York. Miller Upton fixtures installed using 1000 watt Silvered Bowl lamps in 20 foot bays. Ceiling height, 14 feet, 6 inches. Average footcandle intensity, 25.



Monarch Life Insurance Co., Springfield, Mass. Miller Sylvan fixtures installed using 300 watt Silvered Bowl lamps. Spaced 10 by 10 feet. Ceiling height, 11 feet, 11 inches. Average footcandle intensity, 23.

2C, Page 4, January 2, 1939

### TYPICAL INSTALLATIONS



Benson's, Meriden, Conn. Miller Upton fixtures installed using 300 watt Silvered Bowl lamps. Spaced 11 by 14 feet. Ceiling height, 14 feet. Average footcandle intensity, 15.



Van Camp Sea Food Packing Co., Wilmington, Calif., Miller Upton fixtures installed using 500 watt Silvered Bowl lamps. Spaced 10 by 11 feet. Ceiling height, 12 feet. Average footcandle intensity, 40.



A SEMI-INDIRECT LIGHTING
FIXTURE FOR USE
WITH THE SILVERED
BOWL MAZDA
LAMP

A distinguished new fixture for smart, well appointed stores and offices. It expresses the spirit of the day and immediately gives the office visitor or store customer a feeling of confidence that the establishment is alert and alive.

The brilliantly polished edge contrasted with Nuvon Chrome gives the effect of modern smartness. Light from the glass bottom disc softly illuminates the fixture.

Stores and offices lighted with this fixture speak to the customers and employees pleasantly and tell them clearly that the operators have a high regard for the good opinion and welfare of both customers and employees. Used with the silvered bowl Mazda lamps, it provides light of excellent quality that has genuine selling power... because it is exceptionally agreeable to the eyes. There are two sizes, one for 300 or 500 watt silvered bowl Mazda lamp and the other for 750 or 1000 watt lamp.

#### FIXTURE SPECIFICATIONS

The Upton is sturdily constructed with a combination of aluminum, brass and steel parts. The aluminum ceiling canopy, when released, slides down the tubular brass stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

The brass socket cover houses the well known Miller ventilated porcelain socket. To the socket cover are rigidly attached three steel side rods which support the body of the fixture by hooking into three metal loops anchored in the glass bottom disc. The aluminum reflector is slotted to fit over these loops as illustrated. Through the hole in the center of the glass is seated an aluminum sleeve which serves as a light shield. It is fastened securely to the glass disc by three spring clips pressed down over the edge of the sleeve. The 500, 750 or 1000 watt silvered bowl Mazda lamp fits snugly into this opening; for the 300 watt size an aluminum adaptor ring is used. When the lamp is removed the fixture can be unhooked for cleaning. The patented loop arrangement makes it impossible for the body of the fixture to become accidently disengaged.

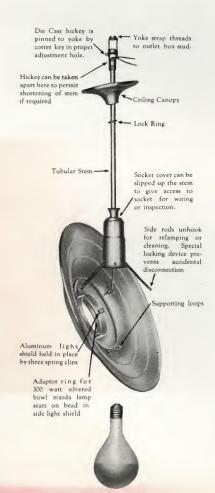
#### WIRING AND INSTALLATION

Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and re-assembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

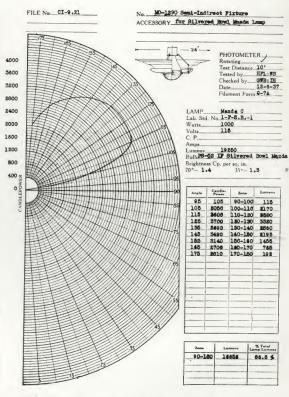
In order to facilitate the wiring of the fixture the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.



#### INSTALLATION DATA

The following table indicates spacing and mounting heights for the Upton.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
11 feet	10 feet	$4\frac{1}{2}$ feet	2 feet
12 "	10-12 "	5 "	21/4 "
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 "	10-13 "	7 "	3 "
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 "	4. "
20 "	18-24 "	10 "	4 "



Typical curve showing distribution of Light

# THE UPTON COMPLETE AS SHOWN (Less Silvered Bowl Mazda Lamp)

		List Price	De-				Dimensions — Inches Length			St	d. Pkg.
Catalog Number	Finish	Each Complete	livery Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Length Overall	Qty.	Wt. Lbs.
MO1286	Nuvon Chrome with Polished Edge	\$24.00	В	300-500	Mogul	21	18	251/2	31	1	13
MO1290	Luge "	36.00	C	750-1000	Mogul	28	24	33	$401/_{2}$	1	30

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Nuvon Chrome finish is Satin Chromium in appearance.

Mounting height is the distance from ceiling to top of reflector.

Extra length stem and wire, Nuvon Chrome, \$.72 list per foot.

Standard Canopy switch, \$1.80 list each.

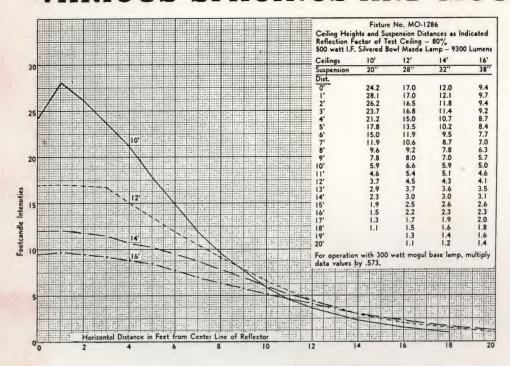
Canopy switch for 750-1000 watt lamps, \$3.00 list each.

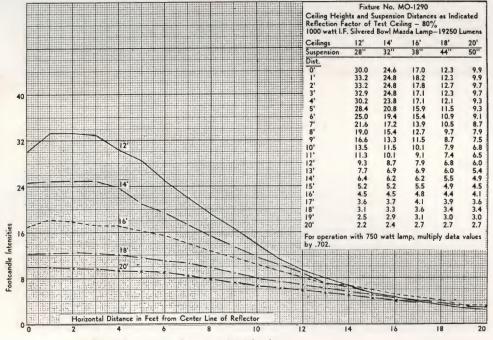
#### REPLACEMENT DISCS

	List Price	Delivery	Dimension	s - Inches		Std	l. Pkg.
Catalog Number	Each	Code	Diam.	Depth	For Use Fixture No.	Qty.	Wt. Lbs.
61388x12 Frostone	\$4.50	В	12	11/2	MO 1286	5	25
61388x13 Frostone	5.00	В	13	$11\sqrt{2}$	MO1290	5	30



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

**MERIDEN** 

CONN.



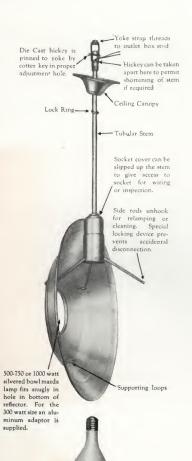
#### FIXTURE SPECIFICATIONS

Aluminum, brass and steel parts are used to make up this light weight yet sturdy fixture.

The aluminum canopy can be released to slide down the tubular brass stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of 20°.

The brass socket cover houses the well known Miller ventilated porcelain socket. To the socket cover are attached three steel side rods which support the reflector by hooking into the metal loops anchored to the reflector. A new patented hook construction makes it impossible for the reflector to become unhooked by accidental shock or vibration; however, when the lamp is removed the reflector can be readily disconnected for cleaning purposes.

In the 500, 750 or 1000 watt sizes, the silvered bowl Mazda lamp fits snug to the center hole of the reflector, and in the 300 watt size an aluminum adapter is used.



#### WIRING AND INSTALLATION

Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and re-assembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

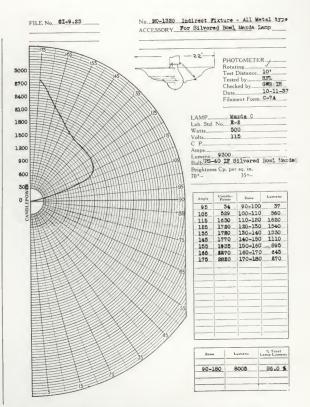
This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

#### INSTALLATION DATA

The following table indicates spacing and mounting heights for the Clifton.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
8 feet	7 feet	3 feet	$1\frac{1}{4}$ feet
9 "	8 "	31/2 "	11/2 "
10 "	9 "	4 "	13/4 "
11 "	10 "	41/2 "	2 "
12 "	10-12 "	5 "	21/4 "
13 "	10-12 "	6 "	21/2 "
14 "	10-13 "	61/2 "	23/4 "
15 "	10-13 "	7 "	3 "
16 "	10-13 "	8 "	3 "
18 "	10-20 "	9 "	4 "
20 "	18-24 "	10 "	4. "



Typical curve showing distribution of Light

### THE CLIFTON COMPLETE AS SHOWN

(Less Silvered Bowl Mazda Lamp)

		List Price	De-			Dimensions → Inches Length					Std. Pkg.	
Catalog Number	Finish	Each Complete	livery Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Length Overall	Qty.	Wt. Lbs.	
MO 1320	Nuvon Chrome with Polished Trim	\$19.50	В	300-500	Mogul	22	18	25	31	1	9	
MO1321	66	28.50	C	750-1000	Mogul	30	24	$32\frac{1}{2}$	40	1	25	

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths — 12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Nuvon Chrome finish is Satin Chromium in appearance.

Mounting height is the distance from ceiling to top of reflector.

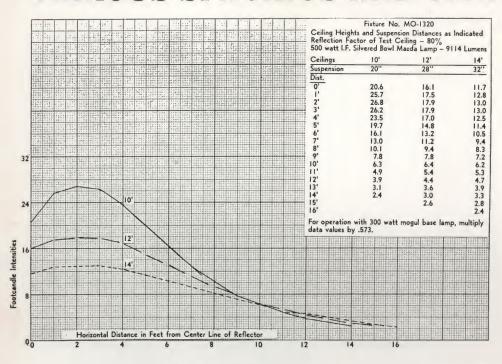
Extra length stem and wire, Nuvon Chrome, \$.72 list per foot.

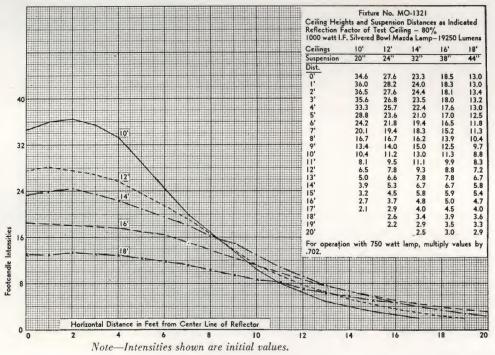
Standard Canopy switch, \$1.80 list each.

Canopy switch for 750-1000 watt lamps, \$3.00 list each.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





## THE MILLER COMPANY



AN INDIRECT LIGHTING
FIXTURE FOR USE
WITH THE SILVERED
BOWL MAZDA
LAMP

Designed by Miller engineers for extracting the utmost in lighting values from the silvered bowl Mazda lamp. The Sylvan has a specific, recognized function as a lighting fixture with a purpose.

The silvered bowl Mazda lamp is a regular lamp to which is applied a silver reflecting surface making it a self contained highly efficient indirect light source.

Used in the Sylvan, the silvered bowl Mazda lamp becomes an integral part of the fixture design. But more important than that, its special lighting characteristics are used to the fullest extent — and proper shielding and stray light control are provided.

Highly desirable in stores, drafting rooms, offices, schools, hotels and similar areas. Note: It is exceptionally desirable for areas with low ceilings because extremely wide distribution of light insures uniformity of lighting values from normally spaced outlets.

#### FIXTURE SPECIFICATIONS

The Sylvan is sturdy in construction. It is an ingenious combination of aluminum, brass and steel parts. The aluminum ceiling canopy, when released, slides down the tubular steel stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped 3/8 iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

The brass socket cover houses the efficient and well known Miller ventilated porcelain socket. To the socket are rigidly attached three steel side rods which support the fixture bowl by hooking into metal loops anchored to it. A patented hook construction makes it impossible for the bowl to become unhooked by shock or vibration. However, a hook can be in-

stantly released allowing the bowl to hinge downward for relamping or cleaning. The fixture bowl consists of two aluminum reflectors forming a shallow assembly in the center of which is a heavy opalescent glass fitter ring through which the silvered bowl of the lamp bulb projects sufficiently to appear as part of the ornamental design of the fixture. The glass fitter ring acts as an insulator around the lamp bulb. It is snug fitting around 500 or 1000 watt lamp bulbs. A narrow aluminum adapter ring is provided to make an equally snug fitting assembly for the smaller 300 watt lamp bulb. A lamp may be easily and quickly removed or inserted through this bottom opening. When the lamp bulb is removed the fixture can be unhooked for cleaning. The patented loop arrangement makes it impossible for the body of the fixture to become accidentally disengaged.

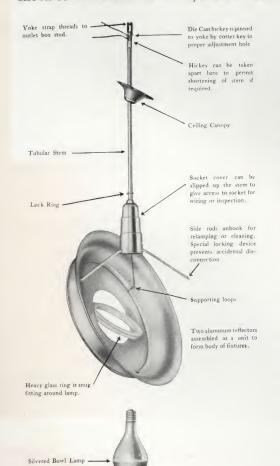
#### WIRING AND INSTALLATION

Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and reassembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

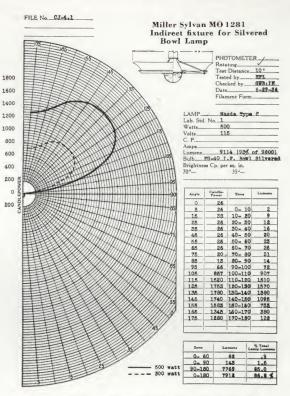


# MILLER

#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the Sylvan.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
9 feet	8 feet	3 feet	18 inches
10 "	9 " -	4 "	20 "
11 "	10 "	41/2 "	24 "
12 "	10-12 "	5 "	26 "
13 "	10-12 "	6 "	28 "
14 "	10-13 "	61/2 "	32 "
16 "	10-13 "	8 "	38 "
18 "	10-20 "	9 "	44 "
20 "	18-24 "	10 "	50 "



Typical Curve Showing Distribution of Light Per Cent Light Output in terms of unsilvered lamp (9800 lumens) 80.7%

# THE SYLVAN COMPLETE AS SHOWN (Less Silvered Bowl Mazda Lamp)

		List Price				— Dimensions — Inches — Length				Std. Pkg.	
Catalog Number	Finish	Each Complete	Del. Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Length Overall	Qty.	Wt. Lbs.
MO 1281	Ivory and Nuvon Chrome	\$24.00	В	300-500	Mogul	221/2	24	32	35	1	15
MO 1281	Nuvon Aluminum with	24.00	В	300-500	Mogul	$22\frac{1}{2}$	24	32	35	1	15
MO 1282	Polished Edge Ivory and Nuvon Chrome	36.00	- B	750-1000	Mogul	24	24	33	38	1	15
MO 1282	Nuvon Aluminum with Polished Edge	36.00	В	750-1000	Mogul	24	24	33	38	1	15

#### REPLACEMENT GLASS BOTTOM DISCS

Catalog List Price		Del.	— Dimension	s — Inches —	For Use	Standard Package		
Number	Each	Code	Diam.	Depth	Fixture Number	Quantity	Wt. Lbs	
G-330	\$3.00	В	63/4	1	MO 1281	5	4	
G-358	5.00	В	81/2	11/8	MO 1282	. 5	4	

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only and are subject to a deferred delivery.

Fixtures are supplied standard not wired. Wire and socket included.

Mounting height is the distance from ceiling to top of reflector.

Nuvon Chrome is Satin Chromium in appearance.

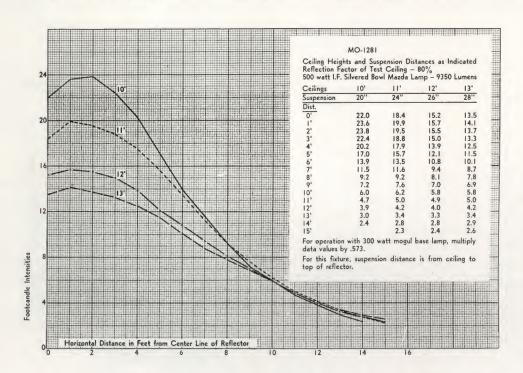
Extra length stem and wire, Nuvon Chrome, \$.72 list per foot.

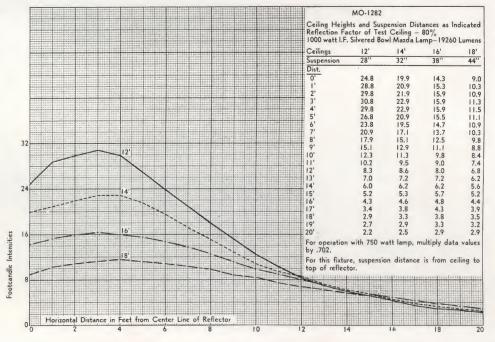
Standard canopy switch \$1.80 list each.

Canopy switch for 750-1000 watt lamps \$3.00 list each.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS





Note-Intensities shown are initial values.

MERIDEN

CONN.



AN INDIRECT LIGHTING
FIXTURE FOR USE
WITH THE SILVERED
BOWL MAZDA
LAMP

Modern business is alive to the fact that better light speeds sales and increases work output. The Winton is a modern and distinctive all-metal indirect fixture that smartens and brightens up the appearance of fine shops, restaurants, offices and similar interiors.

Customers and employees alike appreciate the abundant light the Winton provides to make seeing easy and comfortable. Its highly efficient reflecting surface of nontarnishing Alzak Aluminum assures excellent light diffusion. All the light is directed upward and that filtering through the metal bottom louvre softly illuminates the fixture which is finished in Nuvon Aluminum with brilliantly polished edge.

The Silvered Bowl Mazda lamp becomes an integral part of the fixture design. One size fixture utilizes this light source in 300 or 500 watt size and the other is for 750 or 1000 watt lamps.

#### FIXTURE SPECIFICATIONS

The Winton is sturdily constructed with a combination of aluminum, brass and steel parts. The aluminum ceiling canopy, when released, slides down the tubular brass stem giving free access to the wiring connections. A patented die cast adjustable hickey is tapped  $\frac{3}{8}$  iron for outlet box mounting and supports the fixture stem MS 843 flexibly without rotation. This flexible connection permits the fixture to swing through an angle of  $20^{\circ}$ .

The brass socket cover houses the well-known Miller ventilated porcelain socket. To the socket cover are rigidly attached three steel side rods which support the body of the fixture

by hooking into three metal loops anchored in the aluminum bottom louvre. The aluminum reflector is slotted to fit over these loops as illustrated. The 500-750 or 1000 watt silvered bowl Mazda lamp fits snugly into the opening in the aluminum bottom louvre. For the 300 watt size lamp, an aluminum adaptor ring is used. This ring seats on the inside edge of the bottom louvre as illustrated. When the lamp is removed, the fixture can be unhooked for cleaning. The patented loop arrangement makes it impossible for the body of the fixture to become accidently disengaged. The entire assembly is properly insulated to avoid deterioration due to electrolysis.

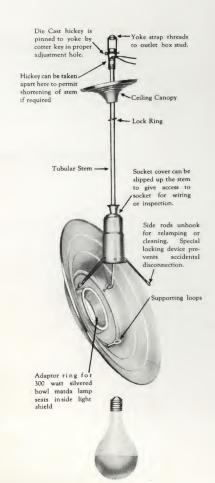
#### WIRING AND INSTALLATION

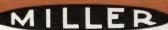
Fixtures are supplied with No. 14 AF wire.

The special hickey construction permits these fixtures to be mounted and connected quickly without threading wired parts together. This feature eliminates the twisting of wires and resultant hazard of shorted or grounded circuits encountered in ordinary hickey constructions. The entire hickey can be taken apart and re-assembled easily and quickly, permitting a fixture to be shortened on the job with a hack saw and hand drill — no re-threading of parts is required.

This hickey which is on the fixture stem is die cast and is constructed in two parts interlocked by a cotter key. The installer extracts the key and threads the upper part of the hickey to the fixture stud of the outlet box. The wired fixture is then attached to it by replacing the key in the proper adjustment holes of the two parts of the hickey. No turning or threading is necessary. The canopy is then slipped into place against the ceiling and retained by its locking ring.

In order to facilitate the wiring of the fixture, the socket cover is arranged so that it may be slipped up the fixture stem by releasing its lock ring, exposing the socket for easy wiring.

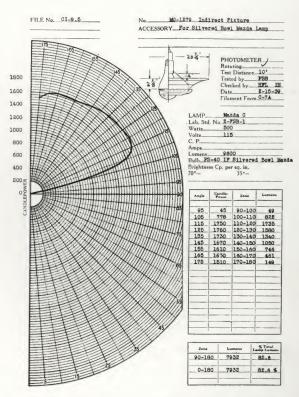




#### INSTALLATION DATA

The following table indicates spacing and mounting heights for the Winton.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
9 feet	8 feet	4 feet	18 inches
10 "	9 "	41/2 "	20 "
11 "	10 "	5 "	24 "
12-13 "	10-12 "	51/2 "	28 "
14-15 "	11-13 "	6 "	32 "
16-17 "	11-14 "	7 "	38 "
18-19 "	12-16 "	8 "	44 "
20 "	12-20 "	9 "	50 "



Typical curve showing distribution of Light

#### THE WINTON COMPLETE AS SHOWN

(Less Silvered Bowl Mazda Lamp)

		List Price	De-			Dimensions - Inches Length				Std. Pkg.	
Catalog Number	Finish	Each Complete	livery Code	Lamp Wattage	Type Socket	Diam.	Tube Stem	Mtg. Hgt.	Length Overall	Qty.	Wt. Lbs.
MO 1279	Nuvon Aluminum with Polished	\$19.50	A	300-500	Mogul	21	18	$251/_{2}$	31	1	13
MO 1280	$\operatorname*{Trim}_{"}$	30.00	В	750-1000	Mogul	28	24	33	401/2	1	30

Fixtures standard with MS 843 stem. Stems are available in standard stock lengths—12, 14, 16, 18, 20, 22, 24 and 30 inch. Special lengths are made to order only.

Fixtures are supplied standard not wired. Wire and socket included.

Nuvon Aluminum is Satin Aluminum in appearance.

Mounting height is the distance from ceiling to top of reflector.

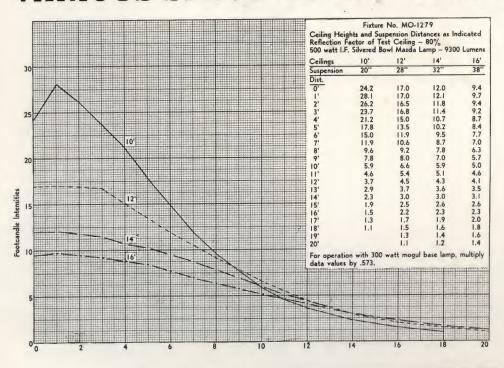
Extra length stem and wire, Nuvon Aluminum, \$.72 list per foot.

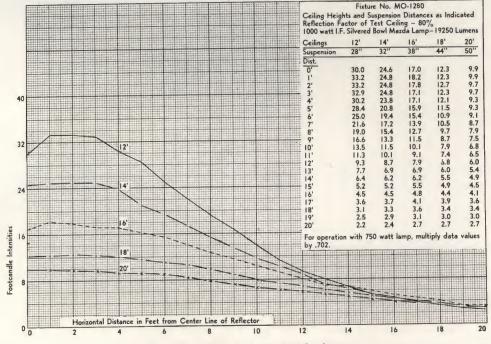
Standard Canopy switch, \$1.80 list each.

Canopy switch for 750-1000 watt lamps, \$3.00 list each.



# FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS



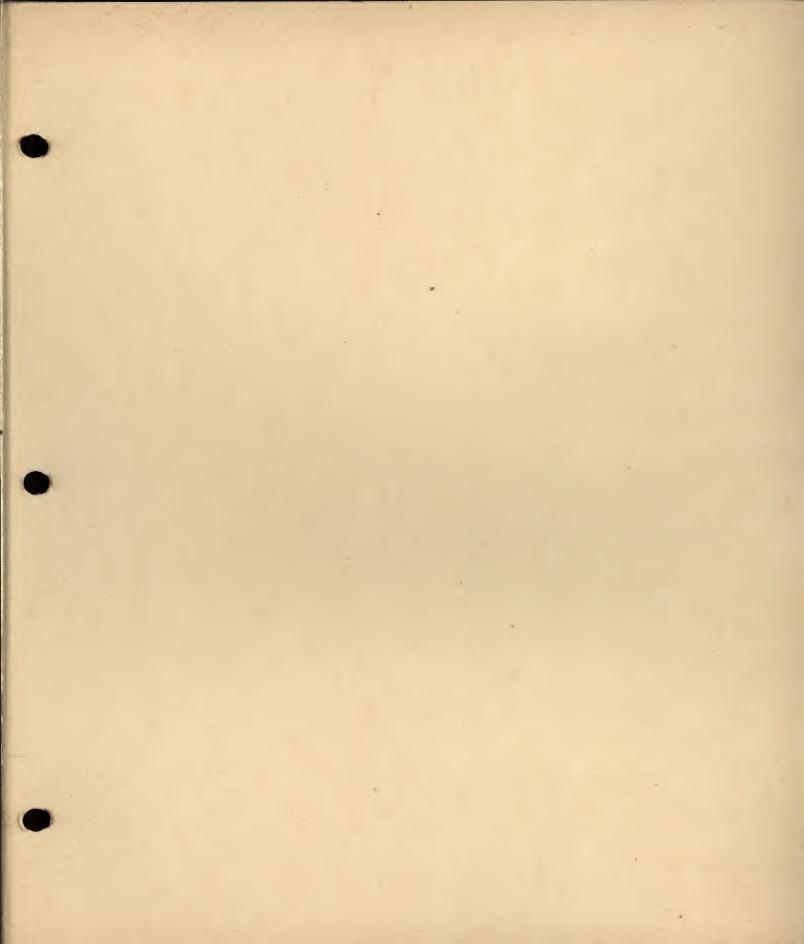


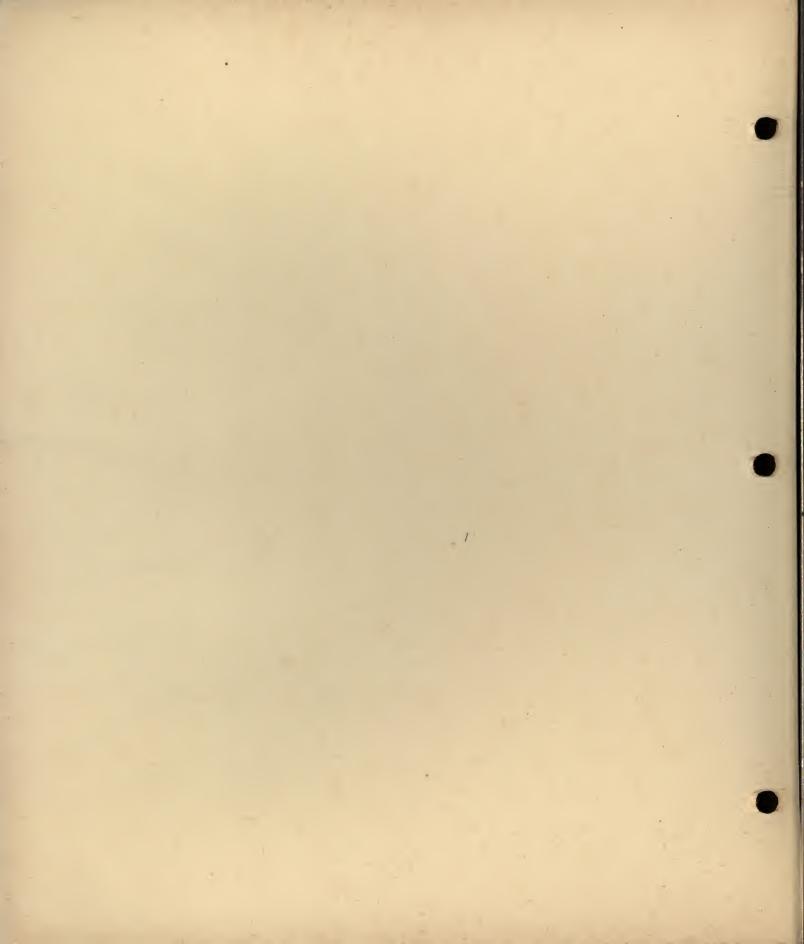
Note-Intensities shown are initial values.

THE MILLER COMPANY

**MERIDEN** 

CONN.





# CATALOG SECTION 2D

THE MILLER COMPANY . MERIDEN, CONNECTICUT



Mer-Tung lighting equipment MERCURY-MAZDA LAMPS



### The Quick Story

#### ON THE

### NEW MERCURY LAMPS

They provide twice as much light as do incandescents of the same wattage; they are cooler, and they last twice as long.

At the same time they have a physical form which permits their light to be controlled and modified by properly designed reflector equipment. And they may be readily used in combination with MAZDA lamps to provide a high value of illumination pleasing to eyes and which blends well with daylight.

Thus Mercury-MAZDA lighting presents these advantages:

- 1. Economical to operate.
- 2. Protects eyes and improves visibility.
- 3. Speeds work.
- 4. Reduces errors, nervous strain, fatigue and accidents.
- 5. Improves quality of work.
- 6. Psychologically cool and actually cool
  - . . . which is especially valuable when air conditioning is installed or contemplated and where higher values of illumination are desired.
- 7. Mercury lighting equipment can be installed to increase the lighting intensity without disturbing or changing wiring.

#### THE MERCURY LAMPS

250 WATT SIZE	
Watts250	1
BulbT-9 Clear, Opaque Coating at Tip End	H
BaseMedium Screw with Opal Glass Extension	F
Maximum Diameter1-5/16"	
Maximum Overall Length8"	N
Light Center Length5"	I
Approximate Initial Lumens	I
Initial Lumens per Watt30	1
Average Life2,000 hours	1
Frequency60 Cycles	)
Burning PositionAny	1

400 WATT SI	
Watts	400
Bulb	T-1
Base	Mogul Scree
Finish	Clea
Maximum Overall Length	13 Inche
Light Center Length	73/4 Inche
Approximate Lumens	16,00
Rated Lumens per Watt	40.
Average Life	2,000 hour
Frequency	60 cycle
*Burning PositionVertical-Bas	se Up, Vertical-Base Dow

## THE CHARACTERISTICS OF THE 250 WATT AND 400 WATT MERCURY LAMPS & OPERATING EQUIPMENT

These new lamps are self starting and require about 8 to 10 minutes to develop full lumen output. If the current is interrupted momentarily, the lamp will relight after it has cooled to approximate room temperature. This interval varies up to about 10 minutes for the 400-watt lamp and is somewhat shorter for the 250-watt size.

The lumen output of the 400-watt size exceeds that of the 750-watt incandescent lamp, which has a rated output of 14,550 lumens; while the output of the 250-watt Mercury lamp is half way between that of the 300 and 500-watt incandescent lamp. The rated life of both sizes is 2000 hours.

The color quality of the light is similar to although somewhat whiter, than that of the Cooper-Hewitt vapor lamp. The major portion of the visible energy is produced in the center or yellow-green area of the visible spectrum. The balance of the energy produced is at the blue end; red is entirely lacking—a fact which helps account for their lower space heating effect and their lower radiant heating effect. The 250-watt size contains slightly less yellow.

Each lamp requires a special transformer, for use either on 208 to 240 volt lines, or on 107 to 123 volt lines.

Manufacturers of the Mercury Lamp have available several types of each — together with auxiliaries to meet the various installation requirements of location, wiring, mounting and power factor control. The Miller Company does not supply these lamps nor their operating equipment, but will gladly refer to the lamp manufacturers, inquiries for complete information regarding them.

#### A WORD ABOUT THE MILLER COMPANY

Since 1844 the Miller Company has been manufacturing lighting equipment. Then it was oil lamps. Within a few years after Edison's invention of the incandescent lamp, Miller began making electric lighting equipment.

Today the Miller Company's plant at Meriden, Connecticut, is the largest and most complete in the world devoted exclusively to the production of lighting equipment of all kinds for commercial, industrial and home lighting purposes.

Like a silken thread running through bank notes, the background of Miller progress has always been engineered lighting. By this we mean that Miller does not simply make good lighting equipment and trust to chance or luck for successful installations.

Miller has a highly efficient lighting engineering staff at its plant which is continually engaged in lighting research, collaborating with the engineering departments of the great incandescent lamp manufacturers of the country to develop not only more efficient lighting in general, but studying closely the development of new lamps as fast as they are produced so as to

be ready with suitable lighting equipment for effective use of such lamps. Thus when the mercury lamp was ready, Miller was ready with proper equipment for its use.

But Miller engineered lighting services do not stop with the production of correct and efficient equipment. Miller employs a staff of trained, experienced lighting field engineers whose chief concern is the application of lighting to industrial and commercial needs.

They study the lighting problems of stores, office buildings, schools and industry in all their ramifications — on the spot. They then make lighting equipment recommendations, based upon the results desired and plan complete or partial installations in all their details.

This is a contribution to commerce and industry which transcends even the manufacture of a good product. This service is available to you without charge. It is part of Miller Service.

On the following pages are shown splendid examples of efficient lighting equipment based upon the intelligent, economical and efficient use of this new light source in combination with MAZDA lamps.



### MILLER MER-TUNG CO EQUIPMENT FOR MERC

Included in the Miller line are Direct, Indirect and Semi-Indirect fixtures and Indirect Portable Torcheres, all using standard Mazda lamps in combination with one Mercury Lamp. With the maximum auxiliary wattage of Mazda lamps and the Mercury Lamp, the resultant illumination is whiter in appearance than with Mazda lamps alone, and is suitable for the lighting of stores, offices, drafting rooms and similar locations. In many applications, a satisfactory color quality is obtainable with less auxiliary wattage.

The construction views on this page show the standard wired assembly used in the construction of all suspension fixtures. In the 400 watt size a shallow aluminum reflector carries the mogul socket for the Mercury Lamp (Base Down Burning Type), four medium sockets for auxiliary Mazda lamps, and two polarized flush plug receptacles to which the sockets are wired (Fig. B). This assembly is supported by hooks from the tubular arms of the suspension stem in which are wires for separate Mercury and Mazda circuits with polarized plug terminals to complete the electrical connection between these two members. The Mercury and Mazda lamp circuits are of No. 14 AF wire, entirely separate and completely polarized. To complete a fixture, it is only necessary to clamp the proper reflector to the suspension by means of the socket cover and knob as illustrated. It can be readily appreciated that this construction permits great freedom in the design and finish of reflectors to be attached to this suspension. In the 250 watt size the mercury lamp is held in a horizontal position just below the top of the deflector and immediately above the Mazda lamp bulb.

Fixtures for the 400 watt size Mercury lamp are equipped with a cylinder of diffusing glass which surrounds the Mercury lamp. The purpose of this glass cylinder is to diffuse the light from the clear bulb of the Mercury lamp. It is regularly supplied in etched crystal glass but may be obtained in blue etched glass where additional color correction is desired.

For easy cleaning or relamping, the supports can be released, allowing the entire body of the fixture to swing downward without disturbing the wiring connections.

# MBINATION LIGHTING URY AND MAZDA LAMPS

## TRANSFORMER HOUSING AND OPERATING EQUIPMENT

Each fixture is supplied standard with shallow ceiling canopy for installation where the transformer for operating the Mercury Lamp is to be located at a distance from the fixture. This transformer can be assembled into the fixture suspension and concealed by a suitable housing. (See Fig. A.)

The standard housing No. H-823 is equipped with crowfeet to take G. E. Vapor Lamp Company's coil and core transformers. Housings for other transformers can be supplied as special. *The transformers are not supplied by Miller*, but should be specified to insure proper crowfeet for mounting.

250 watt coil and core transformers require the following crowfeet.

Crowfeet No. 31156 A & B is for 115 volt, 60 cycle, transformer No. 58G41 Crowfeet No. 31156 C & D is for 230 volt, 60 cycle, transformer No. 58G51 Crowfeet No. 31156 C & D is for 115 volt, 50 cycle, transformer No. 58G45

400 watt coil and core transformers require the following crowfeet.

Crowfeet No. 31156 A & B is for 115 volt, 60 cycle, transformer No. 58G1 Crowfeet No. 31156 A & B is for 230 volt, 60 cycle, transformer No. 58G11 Crowfeet No. 31156 C & D is for 115 volt, 50 cycle, transformer No. 58G5 Crowfeet No. 31156 C & D is for 230 volt, 50 cycle, transformer No. 58G15

#### SPACING & MOUNTING HEIGHTS

The following spacing-mounting height data gives the maximum spacings recommended for various ceiling heights, and the recommended hanging distance of the top of the bowl below the ceiling for the maximum spacing.

U		
CEILING HEIGHT	MAXIMUM SPACING OF OUTLETS	MOUNTING HEIGHT — TOP OF REFLECTOR TO CEILING
12 ft.	15 ft.	27 in.
14 ft.	18 ft.	33 in.
16 ft.	22 ft.	39 in.
18 ft.	25 ft.	45 in.
20 ft.	28 ft.	51 in.
22 ft.	31 ft.	57 in.
24 ft.	34 ft.	63 in.



Construction view showing lamp position 250 watt Mercury-Mazda fixtures.



Construction view showing lamp position combination 400 watt Mercury-Mazda fixtures. The diffusing cylinder is omitted to show detail clearly.



School lighting with Miller Mer-tung equipment with Mercury-Mazda lamps. At the Laurel School, Shaker Heights, Ohio. Miller Mer-tung equipment delivers thirty-five foot candles of glareless light to keep students alert and save their eyes.

The importance of protecting children's eyesight and the helpfulness of good lighting as a supreme factor in eye conservation are now engaging the attention of school executives everywhere. It is recognized that where ample, glareless lighting is provided, learning is speeded and bookwork becomes more pleasant and attractive because it is accomplished with greater ease and efficiency. Effortless seeing thus becomes an important and helpful factor in modern education.



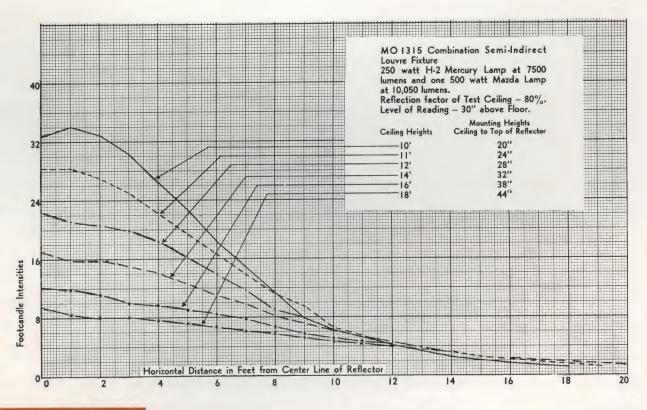
Miller Mercury-Mazda Combination Lighting in the offices of Cannon Mills at Concord and Kannapolis, N.C.

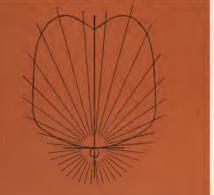
Office work is mostly eye-work. Modern scientific lighting enables it to be done with precision, thoroughness, and speed. In the offices of the Cannon Mills, lighting was modernized with Miller Mercury-Mazda Lighting fixtures . . . without the necessity of rewiring.

All types of office work are speeded up by Miller Mercury-Mazda lighting. Efficiency is increased . . . errors are reduced . . . and the morale level of the personnel is raised. Generous office lighting inspires confidence and invites new business. Every type of interior may be adequately lighted with Miller Mercury-Mazda lighting equipment.

### MO 1315 SEMI-INDIRECT FIXTURE

Graceful lines and the high lighting efficiency of this louvre type lighting fixture make it particularly suited to modern commercial interiors. The outer rims of polished aluminum with black band set off its dull aluminum louvres and give the fixture smart distinction. It provides the glareless, evenly diffused lighting so highly desirable in mercantile and business establishments. An appreciable amount of light is transmitted through the glass bottom disc.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at six different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.



H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder  $4\frac{1}{2}$  inches long,  $7\frac{3}{1}$  inches in diameter. with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.

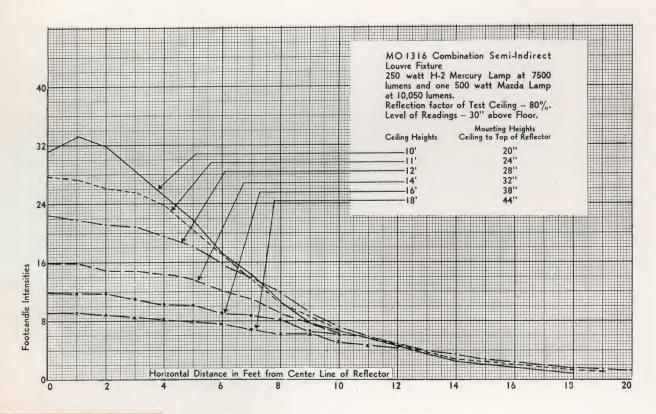


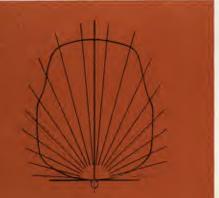
CATALOG NUMBER	DELIVERY CODE	FINISH	DIAM. REFLECTOR	-DIMENSIONS — IN LENGTH FROM CEILING TO TOP OF REFLECTOR	LENGTH OVERALL	LENGTH TUBE STEM	STD.	WT. LBS.
MO 1315 (without transformer housing)	С	Dull and Polished Aluminum and Black	20	32	40	24	1	25
MO 1315—H 823 (with transformer housing)	С	Dull and Polished Aluminum and Black	20	36	44	24	1	26

When desired with transformer housing, order as MO 1315—H 823 Dull and Polished Aluminum and Black finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

### MO1316 SEMI-INDIRECT FIXTURE

A Semi-Indirect Fixture of the Louvre type with glass bottom plate. Encircling rings of polished aluminum contrasting pleasingly with the dull aluminum finish of the louvres, makes this an impressive fixture design. Its refined, smart lines and lighting efficiency make it especially effective in department stores, specialty shops, offices, display rooms, hotel dining rooms and similar locations, where a feeling of luxury, as well as comfortable, efficient illumination is desired.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at six different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.



H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder 4½ inches long, 7¾ inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.

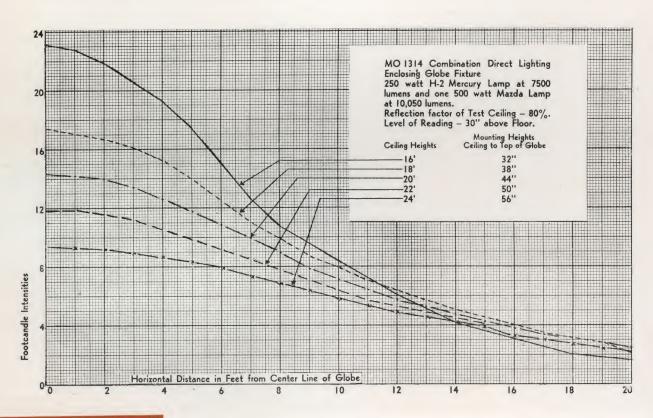


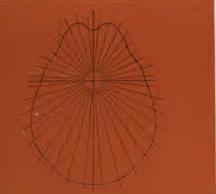
CATALOG NUMBER	DELIVERY CODE	FINISH	DIAM. REFLECTOR	DIMENSIONS — IN LENGTH FROM CEILING TO TOP OF REFLECTOR	LENGTH OVERALL	LENGTH TUBE STEM	STE QTY.	O. PKG. WT. LBS.
MO 1316	С	Dull Aluminum with						
(without transformer housing)		Polished Edges	20	32	41	24	1	25
MO 1316—H 823	C	Dull Aluminum with						2.6
(with transformer housing)		Polished Edges	20	36	45	24	1	26

When desired with transformer housing, order as MO 1316 — H 823 Dull Aluminum with Polished Edges. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

# MO1314 DIRECT LIGHTING FIXTURE

A totally enclosed globe fixture of high quality Genco diffusing glass for direct lighting. Simple and practical in design, it fits in with any type of interior with exceptionally high ceilings. It is ideal for use in stores, auditoriums, armories, and similar commercial locations.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at five different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.



H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder  $4\frac{1}{2}$  inches long,  $7\frac{3}{4}$  inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.



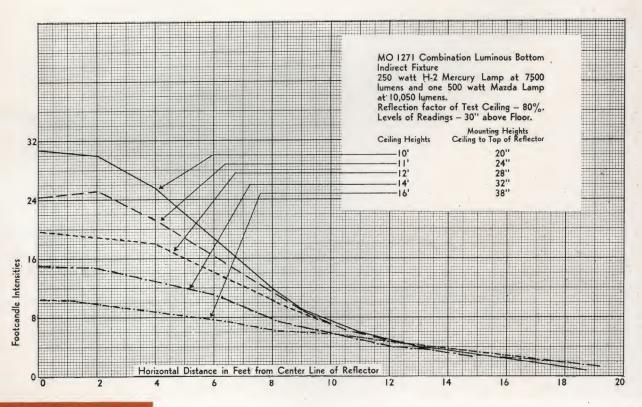
			DIMENSIONS — INCHES						
CATALOG NUMBER	DELIVERY CODE	FINISH	DIAM.	LENGTH OVERALL	FIXTURE LENGTH	FITTER	LENGTH TUBE STEM	QTY.	. PKG. WT. LBS.
MO 1314	D	Nuvon	22	$45\frac{1}{2}$	$32\frac{1}{2}$	10	18	1	30
(without transformer housing MO 1314—H 823 (with transformer housing)	D	Nuvon	22	$491/_{2}$	$361/_{2}$	10	18	1	31

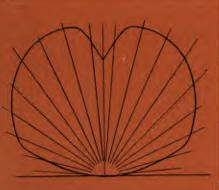
Glassware only for above should be ordered as 5264x22 Genco. When desired with transformer housing, order as MO 1314 — H 823 Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

# MO 1271 LUMINOUS BOTTOM INDIRECT FIXTURE

This fixture is recommended for use where abundant, soft lighting is required for the very best seeing conditions — and is especially recommended for stores, offices, schools, drafting rooms, and similar interiors.

Simple, yet graceful and dignified in design, it consists of a steel bowl, porcelain enameled white inside, light ivory outside. A white porcelain bottom baffle which is part of the reflector reduces brightness of glass bottom disc and increases indirect light output.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at five different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.



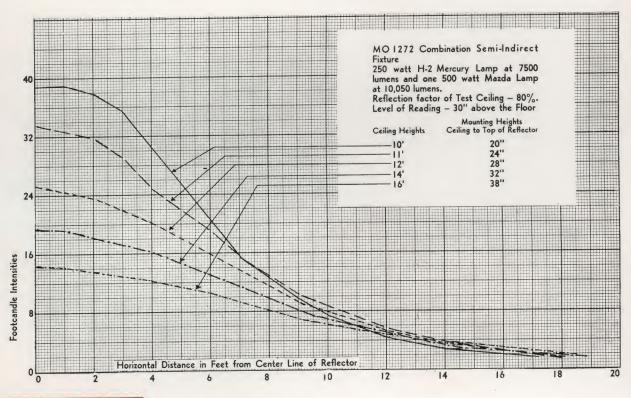
	DELIVERY CODE			—DIMENSIONS — IN LENGTH FROM	NCHES-	LENGTH	STD	, PKG.
CATALOG NUMBER		FINISH	DIAM. REFLECTOR	CEILING TO TOP OF REFLECTOR	LENGTH OVERALL	TUBE STEM	QTY.	WT. LBS.
MO 1271	С	Ivre and Nuvon	20	35	41	24	1	20
(without transformer housing) MO 1271—H 823 (with transformer housing)	С	Ivre and Nuvon	20	39	45	. 24	1	21

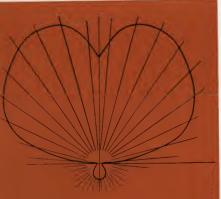
When desired with transformer housing, order as MO 1271 — H 823 Ivre and Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

### MO1272 SEMI-INDIRECT FIXTURE

When close eye-work is the rule, this semi-indirect fixture is recommended. Ample indirect light is reflected to the ceiling from the porcelain enameled white inner reflecting surface, while an appreciable amount of light is transmitted through the glass bottom disc to the working plane. The steel porcelain enameled bowl is light ivory outside.

Every type of business office — banks, insurance companies, drafting rooms, and similar places, will find work output and accuracy increased by the use of this fixture. In retail stores it gives pleasing general illumination, as well as direct selling light on the merchandise.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at five different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.



II 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder 4½ inches long, 734 inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.

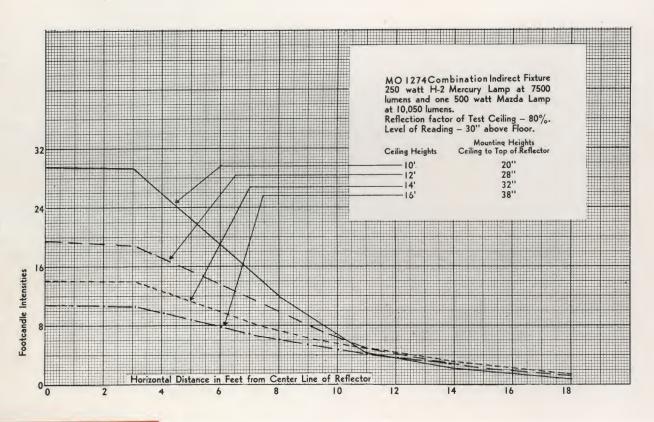


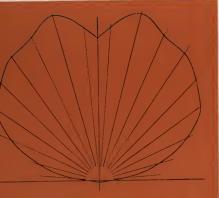
				—DIMENSIONS — IN LENGTH: FROM		1 24 1 2	PKG.	
CATALOG NUMBER	DELIVERY CODE	FINISH	DIAM: REFLECTOR	CEILING TO TOP OF REFLECTOR	LENGTH OVERALL		QTY.	WT. LBS.
MO 1272	С	Ivre and Nuvon	20	35	41	24	1	20
(without transformer housing) MO 1272—H 823 (with transformer housing)	C	Ivre and Nuvon	20	39	45	24	1	21

When desired with transformer housing, order as MO 1272 — H 823 Ivre and Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

# MO 1274 TOTALLY INDIRECT FIXTURE

Refinement and dignity are reflected in the artistic contour of this handsome fixture. It adds prestige and efficient indirect light in commercial establishments, schools, and public buildings. Maximum reflecting efficiency is assured by the durable steel reflector, porcelain enameled white inside and light Ivory outside.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at four different mounting heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.

## MILLER Mer-tung

H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder  $4\frac{1}{2}$  inches long,  $7\frac{3}{4}$  inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.



	DELIVERY CODE  D			—DIMENSIONS — IN LENGTH FROM		LENGTH	· STE	o. PKG.
CATALOG NUMBER		FINISH	DIAM. REFLECTOR	OF REFLECTOR	LENGTH OVERALL	TUBE STEM	QTY.	WT. LBS.
MO 1274	D	Ivre and Nuvon	18	35	42	24	1	22
(without transformer housing MO 1274—H 823 (with transformer housing)	D	Ivre and Nuvon	18	39	46	24	1	23

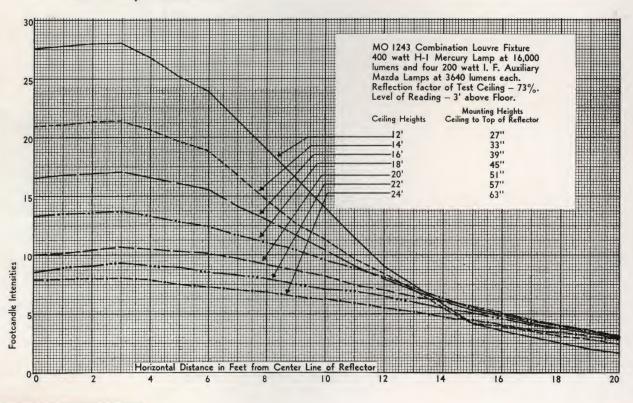
When desired with transformer housing, order as MO 1274 — H 823 Ivre and Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has medium socket for one 250 watt size mercury lamp and Mogul socket for one 300 or 500 watt Mazda lamp.

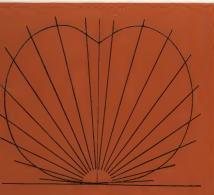
# MO 1243 LOUVRE TYPE INDIRECT FIXTURE

Lighting luxury is achieved by this new fixture of aluminum, designed by Miller for MERCURY-MAZDA lighting. When lighted its beauty is enhanced by the soft, luminous glow which bathes the silvery aluminum outside surfaces of the louvres — giving an effect of distinctive charm. And it does a splendid lighting job. The porcelain enameled steel inner liner, assembled in the louvre reflectors, provides an enduring reflecting surface from which a widespread distribution of light is obtained, as the illumination curves show.

This fixture is recommended for business offices where high efficiency lighting, free from glare, is needed for easy, effortless seeing.

It is equally desirable in smart stores and shops where good selling light is needed, yet where the lighting should be unobtrusive, well diffused, and evenly distributed.





Illumination values in curve above are taken from actual test installations. These show intensities obtained from a single unit at given distances from center line of reflector at seven different mounting heights. Adjacent units will provide similar intensities so that the intensity at any point on the curve will be "built up" with light from surrounding units.



H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder 4½ inches long, 7¾ inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.



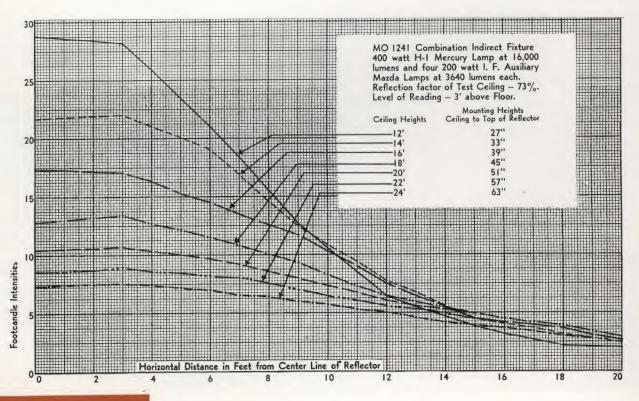
				—DIMENSIONS — IN LENGTH FROM		LENGTH	SŢD	. PKG.
CATALOG NUMBER	DELIVERY CODE	FINISH	DIAM. REFLECTOR	OF REFLECTOR	LENGTH OVERALL	TUBE STEM	OTY.	WT. LBS.
MO 1243	С	Nuvon	32	$32\frac{1}{2}$	48	18.	1	75
(without transformer housing) MO 1243—H 823 (with transformer housing)	C	Nuvon	32	$361/_{2}$	52	18	1	76

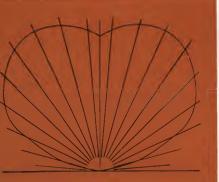
When desired with transformer housing, order as MO 1243 — H 823 Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has Mogul socket for one 400 watt size mercury lamp and four medium sockets for four 200 watt Mazda lamps.

Diffusing glass cylinder only for above should be ordered as G 356 CRI.

## MO 1241 TOTALLY INDIRECT FIXTURE

Maximum lighting efficiency is combined with pleasing style in this totally indirect fixture. It is recommended for those interiors where close seeing tasks are performed . . . especially banks, offices, schools, drafting rooms. The porcelain enameled steel liner which fits snugly into the outer aluminum reflector insures a widespread distribution of light and permanent light control.





Illumination values in curve above are taken from actual test installations. These show intensities obtained from a single unit at given distances from center line of reflector at seven different mounting heights. Adjacent units will provide similar intensities so that the intensity at any point on the curve will be "built up" with light from surrounding units.



H 823 Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder 4½ inches long, 7¾ inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer (see page 5.) The Transformer is not included with it.



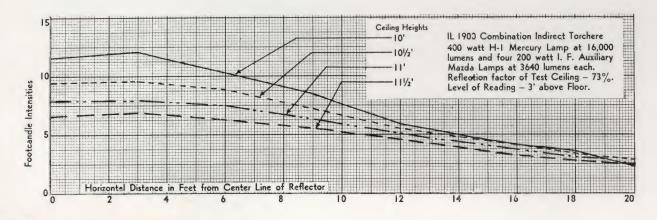
STD.	PKG.
QTY.	WT. LBS.
1	75
1	76
	1

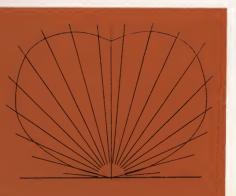
When desired with transformer housing, order as MO 1241 — H 823 Nuvon finish. Specify transformer to be used in housing to insure proper crowfeet for mounting (see page 5). Has Mogul socket for one 400 watt size mercury lamp and four medium sockets for four 200 watt Mazda lamps.

Diffusing glass cylinder only for above should be ordered as G 356 CRI.

## IL 1900 INDIRECT PORTABLE FLOOR TORCHERE

This torchere is admirably suited to locations where a clear ceiling is necessary and where high intensity lighting is desirable. It lends itself particularly to the lighting of modest sized offices, reception rooms, stores, restaurants. This torchere is also suitable in areas with ceiling heights lower than 11 or 12 feet, and with wide spacing of outlets, where the suspension distance required to light the ceiling uniformly would require fixtures to hang too low for best appearance. Likewise, where excessive intensities would be obtained under fixtures on low ceilings, the torchere can be employed on greatly increased spacing to obtain uniform illumination on both ceiling and working plane. It is of aluminum and has porcelain enameled insert which provides an enduring reflecting surface.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at four different ceiling heights. Adjacent units will provide similar values so that the illumination at any point on the curve will be "built up" with light from surrounding units.

## MILLER Mer-tung

Transformer for 97-127 volt service is supplied and built into this torchere. Line voltage of location where units are to be used must be specified when ordering, so that proper connections can be made before shipping. The transformer has four taps: the 100-volt tap for voltages of 97 to 103; the 107-volt tap for voltages of 113 to 111; the 115-volt tap for voltages of 111 to 119; and the 123-volt tap for voltages of 119 to 127. Separate switches in the base control the Mercury and Mazda circuits.



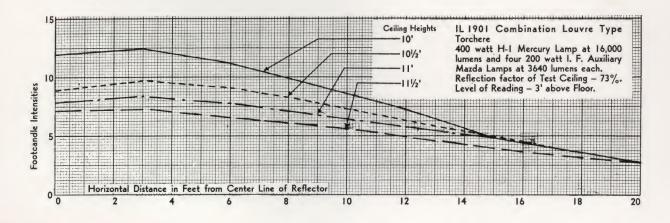
CATALOG NUMBER	DELIVERY CODE	FINISH	DIMENSIONS DIAMETER	S — INCHES————————————————————————————————————	QTY. STD	WT. LBS.
IL 1900	D	Nuvon	$24\frac{1}{2}$	75	1	175

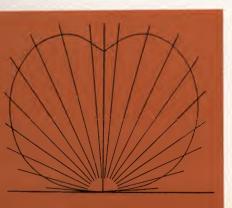
Specify line voltage when ordering. Has Mogul socket for one 400 watt size mercury lamp and four medium sockets for four 200 watt Mazda lamps.

# IL 1901 INDIRECT PORTABLE FLOOR TORCHERE

The beauty of this floor torchere is enriched when lighted. A soft, luminous sheen plays on the lustrous aluminum surfaces of the louvres — giving a pleasant air of hospitality in any business place in which it is used.

Easy maintenance of its high lighting efficiency is assured by the porcelain enameled inner liner which is assembled in the louvre reflectors to provide an enduring reflecting surface. It is recommended for low-ceilinged interiors such as the small office, shop, beauty parlor or any location where it is desirable to keep the ceiling clear of fixtures. Likewise, where excessive intensities would be obtained under fixtures on low ceilings, the torchere can be employed on greatly increased spacing to obtain uniform illumination on both ceiling and working plane.





Illumination values in curve above are taken from actual test installations. These show values obtained from a single unit at given distances from center line of reflector at four different ceiling heights. Adjacent units will provide similar values so that the illumination will be "built up" with light from surrounding units.

## MILLER Mer-tung

Transformer for 97-127 volt service is supplied and built into this torchere. Line voltage of location where units are to be used must be specified when ordering, so that proper connections can be made before shipping. The transformer has four taps: the 100-volt tap for voltages of 97 to 103; the 107-volt tap for voltages of 103 to 111; the 115-volt tap for voltages of 111 to 119; and the 123-volt tap for voltages of 119 to 127. Separate switches in the base control the Mercury and Mazda circuits.



CATALOG NUMBER	DELIVERY CODE	FINISH	——DIMENSIONS DIAMETER	S — INCHES——— HEIGHT	QTY. STD	WT. LBS.
IL 1901	D	Nuvon	32	75	1	175

Specify line voltage when ordering. Has Mogul socket for one 400 watt size mercury lamp and four medium sockets for four 200 watt Mazda lamps.





# MILER Mer-tung

H 823 — Transformer Housing for assembling and concealing transformer in fixture suspension. Consists of a perforated cylinder  $4\frac{1}{2}$  inches long,  $7\frac{3}{4}$  inches in diameter, with 11 inch canopy ring. Fits inside fixture canopy as illustrated above. Comes complete with crowfeet for mounting transformer. The transformer is not included with it.

MO 1244—a totally indirect lighting fixture particularly suited to modern industrial interiors. Scientifically designed and engineered, it provides glareless, evenly diffused lighting. Uses one 400 watt Mercury lamp in combination with four 200-watt Mazda lamps. The reflector is white porcelain enameled with stem and canopy in Nuvon Chrome. Its simplified construction makes cleaning and relamping easy.

				Dimensions	- Inches		Std. Pkg.		
Catalog Number	Finish	Del. Code	Diam. Reflector	Length Tube Stem	Mtg.	Length Overall	Qty.	Wt. Lbs.	
MO 1244 without transformer housing	Nuvon Chrome with White Porcelain Enamel Reflector	Č.	241/2	24	321/2	48	1	75	
MO 1244-H 823 with transformer housing	Nuvon Chrome with White Porcelain Enamel Reflector	C	241/2	24	361/2	52	1	76	

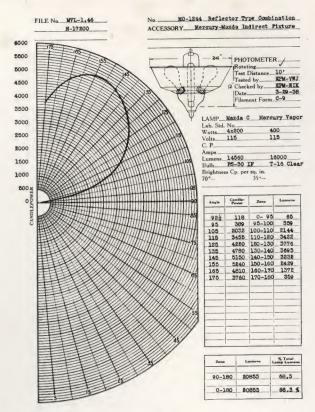
Fixture has ventilated mogul socket for the 400 watt Mercury lamp and medium sockets for four 200 watt Mazda lamps. Crowfeet for 115 volt 60 cycle Transformer No. 58G1 is supplied standard. Crowfeet drilled for other open coil and core transformers on request.

Nuvon Chrome is satin chromium in appearance. Mounting height is distance from ceiling to top of reflector.

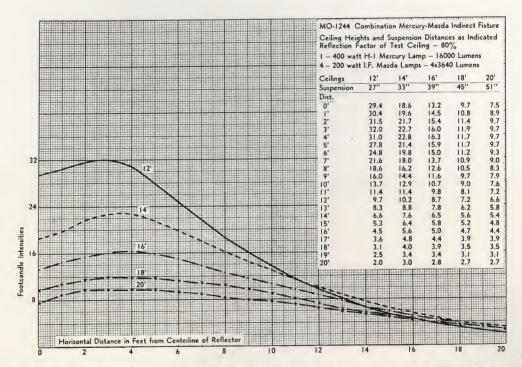
#### INSTALLATION DATA

The following table indicates the spacing and mounting heights for the MO 1244.

Ceiling Height	Spacing Between Outlets	Spacing from Walls	Suspension Length to Top of Reflector
9 feet	8 feet	4 feet	18 inches
10 "	9 "	41/2 "	20 "
11 "	10 "	5 . "	24 "
12-13 "	10-12 "	51/2 "	28 "
14-15 "	11-13 "	. 6 "	32 "
16-17 "	11-14 "	7 "	38 "
18-19 "	12-16 "	8 "	44 "
20 "	12-20 "	9 "	50 "

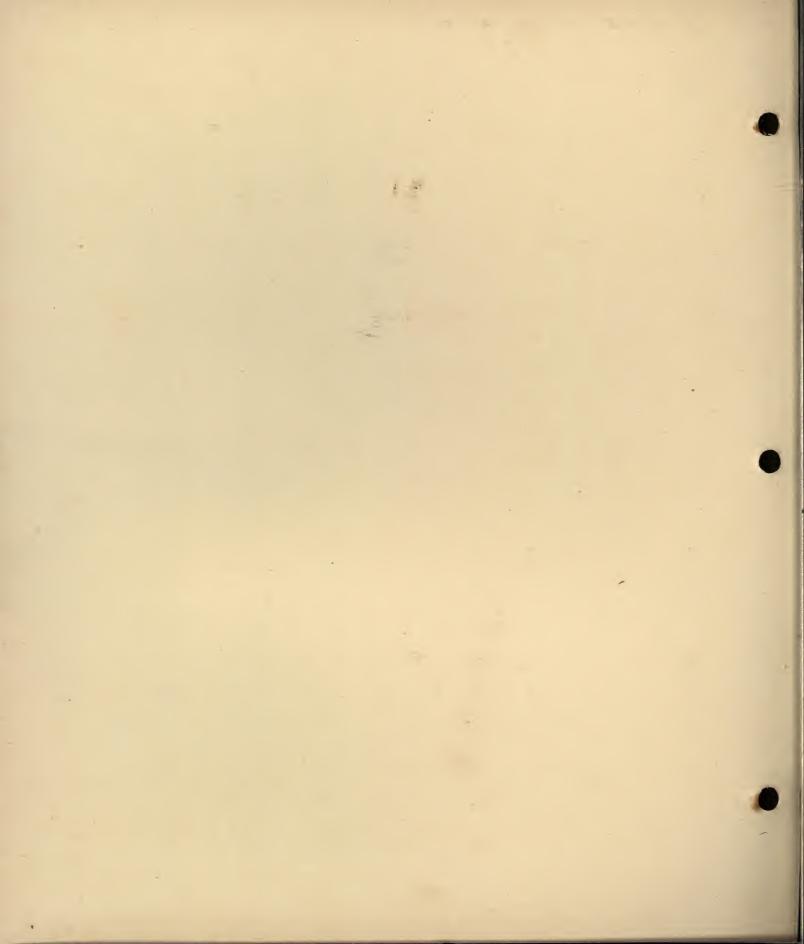


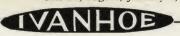
Typical curve showing distribution of Light



FOOTCANDLE INTENSITIES OF LIGHT AT VARIOUS SPACINGS AND MOUNTINGS







SCHEDULE 2E

Inspected by Underwriters' Laboratories.

F. O. B. Meriden, Conn.



### Ivanhoe Utility Hangers



Ceiling Type



Chain Pendant

Ivanhoe Utility line hangers are low in price. Designed especially for use in commercial locations where the use of higher priced fixtures is not warranted. They are of sound construction, good finish and come in a wide range of fitter sizes.

Hangers are supplied standard with MS843 stem. This stem prevents twisting of wires and permits a fixture to be shortened on the job with a hack saw and hand drill - no re-threading of parts is required.

Chain — Chain is of suitable gauge steel insuring mechanical strength and is plated to match finish of hanger.

#### WIRE AND SOCKETS

No. 16AF wire is supplied with hangers for lamps of 500 watt size or smaller.

No. 14AF wire is supplied with hangers for lamps of 750 watt size or larger.

Porcelain sockets of the highest quality are used in both medium and mogul type hangers.

Cross Bars — Ceiling units are supplied standard with offset reversible galvanized crossbars, two screws with large barrel nuts are supplied.

Catalog No.	Finish	List Price Each	Del.* Code	Finish	List Price Each	Type Socket		—Dimension Length Tube Stem	ns in Inches- Length to Bottom of Holder	Fitter Diameter	Standard Pa Quantity	Wt.,
				CHA	IN PEND	ANT						
M-850 M-851 MO-851	Statuary Bronze Statuary Bronze Statuary Bronze	\$2.31 2.49 3.09	A A A	Pol. Chrome Pol. Chrome Pol. Chrome	\$2.91 3.09 3.69	Medium Medium Mogul	5 \frac{1}{4} 5 \frac{1}{4} 5 \frac{1}{4}		30 30 30	4 6 6	12 12 12	35 20 35
				SWIVEL	STEM PH	ENDANT						
M-873 M-874 MO-874	Statuary Bronze Statuary Bronze Statuary Bronze	\$3.39 3.57 4.17	B B B	Pol. Chrome Pol. Chrome Pol. Chrome	\$3.84 4.02 4.62	Medium Medium Mogul	$ 5\frac{1}{4} $ $ 5\frac{1}{4} $ $ 5\frac{1}{4} $	24 24 24	29 30 30	4 6 6	12 12 12	30 35 40
				CE	ILING TY	PE						
M-804 M-805 MO-805	Statuary Bronze Statuary Bronze Statuary Bronze	\$1.44 1.59 2.34	A A A	Pol. Chrome Pol. Chrome Pol. Chrome	\$1.74 1.89 2.64	Medium Medium Mogul	5½ 6 6	****	4 4½ 4½ 4½	4 6 6	12 12 12	30 25 35

Note — Mogul socket units can be supplied with special Tri-Lite socket for use with the Mazda double filament lamp bulbs at \$0.75 list each additional. Add TRI to catalog number when desired this way.

Extra length chain and wire, Statuary Bronze, \$0.24 list per foot. Polished Chrome \$0.48 list per foot. Chain only, Statuary Bronze, \$12.00 list per hundred feet. Polished Chrome \$36.00 list per hundred feet. Extra length stem and wire, Statuary Bronze, \$0.72 list per foot. Polished Chrome \$0.90 list per foot. Standard canopy switch, \$1.80 list each; wired on hanger.

Tri-Lite switch, for Tri-Lite socket units \$1.80 list each; wired on hanger. Hangers are supplied standard wired. They will be supplied on special order unwired with wire and socket included but unattached. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

SCHEDULE 2E

Chain Pendant

Inspected by Underwriters' Laboratories.

F. O. B. Meriden, Conn.

### Ivanhoe Standard Safety Hangers





Holder mechanism of safety type hangers showing details of construction, holder raised to permit the globe to be easily placed in position. Holder seats firmly on globe and is locked securely in place with knurled ring.



Swivel Stem Pendant

#### HANGER SPECIFICATIONS

Ivanhoe Safety Hangers are easier than ordinary hangers to hang and are permanently safe. They eliminate the possibility of glass globes falling from the supporting hangers, no matter how severe the vibration may be. They insure safety without the use of screws and lugs, and without straining the lips of the glass globe or the metal socket cover. The glass is held in place by the metal strap support.

Hangers are supplied standard with MS843 stem. This stem prevents twisting of wires and permits a fixture to be shortened on the job with a hack saw and hand drill - no re-threading of parts is required.

The canopies, top shells, holder and fitter shells of these units are constructed of 24 gauge brass, a sufficiently heavy gauge to provide adequate mechanical strength to their graceful contours. Canopies are regularly supplied with knockouts for canopy switches. Top shells of ceiling units are also equipped with knockouts for canopy

Chain - Chain is of suitable gauge steel insuring mechanical strength and is plated to match finish of hanger.

#### WIRE AND SOCKETS

No. 16 AF wire is supplied with hangers for lamps of 500 watt size or smaller.

No. 14 AF wire is supplied with hangers for lamps of 750 watt size or larger.

Porcelain sockets of the highest quality are used in both medium and mogul type hangers.

Cross Bars - Ceiling and pendant units are supplied standard with offset reversible galvanized crossbars, two screws with large barrel nuts are supplied.

Catalog Number	List Price Statuary Bronze	Polished Chrome	Del.* Code	Type Socket	Diameter Canopy	Dimension Length Tube Stem	Length to Bottom of Holder	Fitter Dia.	Standard F Quantity	ackage Wt., Lbs.
			C	HAIN PE	NDANT	S				
M-1369 M-1370 MO-1370 MO-1371	\$3.45 3.75 4.35 6.00	\$4.05 4.35 4.95 6.60	A A C	Medium Medium Mogul Mogul	514 514 514 514	****	24 24 24 24	4 6 6 8	12† 12† 12† 12†	24 26 31 58
†Units pac	ked one to a p	oackage — 12	2 to a car	rton.						
			SWIV	EL STEN	A PENDA	NTS				

MO-1378	6.75	7.20	C	Mogul	51/4	18	$24\frac{1}{2}$	8	12‡	58
‡Canopy and	d socket cover	packed tog	ether is	n individual p	ackage —	12 to a carto	n, stems ar	nd wire p	acked 12 bu	ılk to

Medium

a carton.										
				CEILING	TYPE					
M-1397 M-1398 MO-1398	\$2.25 2.55 3.60	\$2.55 2.85 3.90	A A B	Medium Medium Mogul	6 6 6	****	4 4½ 4½ 4½	6	12 § 12 § 12 §	18 20 27
<b>§Units</b>	packed one	to a pack	cage -	- 12 to a c	arton.					

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Note: Mogul socket units can be supplied with special Tri-Lite socket for use with the MAZDA double filament lamp bulbs at \$0.75 list each additional. Add TRI to catalog number when desired this

Extra length chain and wire, Statuary Bronze, \$0.24 list per foot. Polished Chrome, \$0.48 list per foot. Chain only, Statuary Bronze, \$12.00 and Polished Chrome \$36.00 list per 100

Extra length stem and wire, Statuary Bronze, \$0.72 and Polished Chrome \$0.90 list per foot.

Standard canopy switch, \$1.80 list each; wired on hanger.
Tri-Lite switch for Tri-Lite socket units \$1.80 list each; wired on hanger.
Chain Hangers are supplied standard

Stem Hangers supplied standard not wired. Socket and wire included but not attached.

When hangers are desired with 20 or 22 gauge brass shells, there is a slight change in contour. For 4" fitter hangers with 20 or 22 gauge brass shells, add \$0.75 list additional; for the 6" fitter hangers, add \$1.05 list additional; and for the 8" fitter hangers, add \$1.50 list

IVANHOE

SCHEDULE 2E

Inspected by Underwriters' Laboratories.

F. O. B. Meriden, Conn.



These fixtures conform to Procurement Division specification No. 254.

#### HANGER SPECIFICATIONS

Ivanhoe Super Service hangers are designed to provide the greatest possible mechanical strength as well as grace and refinement in appearance.

Shells are of finished 20 gauge brass. Canopies are standard with knockout for canopy switches. Top shells of ceiling units are standard with knockouts for canopy switches. Inside of holders are sprayed aluminum. Four inch holders are equipped with three heavy-gauge threaded bushings and beveled and upset heavy-gauge screws. Six and eight inch holders with four beveled and upset screws. Ten inch holders with six beveled and upset screws.

Galvanized box type adjustable suspension hickeys and screw ring canopies are regularly supplied on pendant fixtures.

Chain is of 36-inch diameter brass.

Swivel Stem — Swivel stems are of 3%-inch iron pipe covered by 3%-inch brass casing. Swivel is of turned brass, ball type, permitting hanger to swing through an angle of 30°.

#### WIRE AND SOCKETS

No. 16 AF wire is supplied with hangers for lamps of 500 watt size or smaller.

No. 14 AF wire is supplied with hangers for lamps of 750 watt size or larger.

Porcelain sockets of the highest quality are used in both medium and mogul type hangers.

Cross Bars — Ceiling units are supplied standard with offset reversible galvanized crossbars, two screws with large barrel nuts are supplied.

	List Pr	ice Each			D	imension Length	s in Inches - Length to		Standard P	ackage
Catalog	Statuary	Polished	Del.*	Type	Diameter	Tube	Bottom of	Fitter		Wt.,
Number	Bronze	Chrome	Code	Socket	Canopy	Stem	Holder	Dia.	Quantity	Lbs.
				CHAIN	PENDANT					
M - 950	\$4.44	\$5.19	C	Medium	51/4		24	4	12	33
M-951	4.98	5.73	C	Medium	51/4		24	6	12	24
MO-951	5.58	6.33	C	Mogul	51/4	2707	24	6	12	26
MO-952	7.20	7.95	D	Mogul	51/4	****	24	8	12	55
MO-953	12.45	13.20	D	Mogul	814		24	10	6	35
			SW	IVEL ST	EM PENDA	NT				
M-954	\$5.34	\$5.94	C	Medium	51/4	18	24	4	12	40
M-955	5.88	6.44	Č	Medium	51/4	18	24	6	12	42
MO-955	6.48	7.08	Č	Mogul	51/4	18	24	6	12	44
MO-956	8.10	8.77	D	Mogul	51/4	18	24	8	12	55
MO-957	13.35	13.95	D	Mogul	814	18	24	10	6	40
				CEILIN	NG TYPE					
M-903	\$2.94	\$3.39	В	Medium	6	****	4	4	12	19
M-904	3.27	3.72	B B	Medium	6	20-24	41/2	6	12	21
MO-904	3.87	4.32	C	Mogul	6	1070	41/2	6	12	28
M-905	3.81	4.26	D	Medium	81/4	****	41/2	6	12	30
MO-905	4.41	4.86	D	Mogul	814		41/2	6	12	36
MO-906	6.90	7.35	D	Mogul	81/4		61/2	8	12	46
				BRA	ACKET					
M-757	\$4.50	\$5.10	C	Medium	51/4		7	21/4	12	20
Nuvon fir	nish will be	supplied at	same price	as Statuary	Bronze.					
					. 1 .		1 0		1	

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

Note: Mogul socket units can be supplied with special Tri-Lite socket for use with the MAZDA double filament lamp bulbs at \$0.75 list each additional. Add TRI to catalog number when desired this way.

Extra length chain and wire, Statuary Bronze, \$0.48 list per foot. Polished Chrome, \$0.72 list per foot.

Chain only, Statuary Bronze, \$36.00 list per hundred feet. Polished Chrome, \$60.00 list per hundred feet.

Extra length stem and wire, Statuary Bronze, \$0.72 list per foot. Polished Chrome \$0.90 list per foot.

Standard canopy switch, \$1.80 list each; wired on hanger.

Tri-Lite switch for Tri-Lite socket units \$1.80 list each; wired on hanger.

Pendant Hangers will be supplied with Cast Brass loop at \$0.48 additional list each hanger.

Hangers and brackets are supplied standard not wired. Wire and socket are included. Can be supplied wired on order only. Brackets are standard with keyless socket. SCHEDULE 2E

Inspected by Underwriters' Laboratories.

F. O. B. Meriden, Conn.

### Ivanhoe Miscellaneous Lighting Fixtures



No. M803



No. M426



No. M1220 No. M1221



No. M427x6



No. M1229 No. M1230

#### CEILING BANDS-M1229, M1230

Ceiling bands or porch collars are available in 31/4-inch, and 4-inch fitter sizes. Wire and socket included but not wired.

#### CEILING FIXTURE WITH SHADE-M427

M427 fixture is supplied with 428x6 Opal shade in individual cartons. Fixture wired. Fixture canopy diameter 51/8 inches.

#### CLOSE CEILING FIXTURES-M1220-21

For locations having limited headroom—standard with two porcelain sockets, bottom knob support, aluminized inner reflecting surface. Easily wired and installed. Fixture standard not wired. M1220 and M1221 standard with Box bowl. Complete with glass.

#### SIDE WALL EXIT LIGHT-M1225

A practical exit light for side wall mounting. Has 3 inch letters in white on ruby glass. 3½ inch fitter. Fixture not wired. Finish — Statuary Bronze. Complete

#### BARE CEILING FIXTURE-M803

The M803 is supplied with cross bar and screws for attaching to the outlet box. Canopy shell has an eyelet for pull chain socket. Finish, White Paint Enamel or Polished Chrome. No socket supplied. Packed one to a carton. 24 to a container.

#### **DUSTLESS KITCHEN UNIT-M1232**

The M1232 Kitchen Unit for 100-watt lamp with bullet-shaped, straight sided glassware does not allow dust to collect. Consists of flat ceiling band which seats the glass and acts as a reflector, Genco bullet-shaped glass globe with bottom hole, harp and knob to support the glass.

#### **VO-60 CHROMIUM**

An inexpensive Ceiling Type Vaporproof holder and globe recommended for shower rooms, basements, etc., is provided for mounting direct on 4-inch outlet box, complete with sign receptacle — wired complete. Glassware — Crystal, roughed inside.

#### WALL BRACKET-M764x5

The M764 bracket is supplied with Medium Keyless socket, 21/4-inch fitter and No. 5910 Sudan glass. Not wired — wire and socket included. Has 3/4-inch female reducer for attachment to stud and outlet box. Projection — 5 inches.

#### BARE CEILING ROSETTE-M426

The M426 is supplied with cross bar and screws for attaching to the outlet box. An eyelet is provided for pull chain socket. No socket is supplied. Finishes: Statuary Bronze and Polished Chrome. Packed 2 to a carton, 48 to a container.



No. M764x5

No. M1232

#### COMPLETE FIXTURES-SCHEDULE "2E"-F. O. B. MERIDEN, CONN.



No. M1225

Catalog N	lo. and Finish	List Price Each	Del.* Code	Description	Complete with Glassware	—Dir Diam,	nen. in l	In.— Fitter	Recommende Lamp Watts	d St	d. Pkg. Wt., Lbs.
M-427x6 M-427x6 M-764x5 M-1220 M-1220 M-1221 M-1221 M-1225 M-1230 M-1232 VO-60 M-803 M-803 M-426	Stat. Brz. Pol. Chrom. Stat. Brz. Stat. Brz. Pol. Chrom. Stat. Brz. Pol. Chrom. Stat. Brz. Stat. Brz. Stat. Brz. Stat. Brz. Nuvon Pol. Chrom. White Pol. Chrom. Stat. Brz.	\$2.85 3.00 2.73 9.27 9.60 111.55 3.27 .90 1.08 6.45 3.48 6.45 3.60	AABAABBBCCCBBBBCC	Ceiling Fitter and Shade Ceiling Fitter and Shade Keyless Bracket Ceiling Band-Box Bowl Side Wall Exit Light Porch Collar Porch Collar Dustless Kitchen Unit Shower Fixture Kitchen Holder Kitchen Holder Beam Light	428x6 Opal 428x6 Opal 5910 Sudan 4½ 539x10 Genco BH 539x12 Genco BH 539x12 Genco BH 6-234 Ruby Ext	6 Canopy 11½ 11½ 13¾ 6¼ 6¼ 6¼ 6¼ 8½ 5¼ 5¼ 5¼	41/2 41/2 5 5 61/2 13/4 13/4 81/2 7 4 51/4 17/8	21/4 21/4 21/4 31/4 4 4	(2) 50-60 15-25-40 100 40-50-60 50-150 50-150 25-50	12 12 6 4 4 4 4 10 24 24 6 10 24 24 24	30 30 12 30 30 36 36 28 20 20 30 25 13 13
M-426	Pol. Chrom	.66	C	Beam Light		51/8	17/8		25-50	48	13



No. VO-60

#### GLASSWARE ONLY FOR REPLACEMENT

346x6	CRI	.63	В	Glass for VO-60			6	******	50-60	12	14
428x6	Opal	.63	A	Glass for M427x6	****************	6	4	21/4	25-40	36	35
539x10	Genco BH	2.67	A	Glass for M-1220	Box Bowl	10	3		(2) 25-40	6	20
539x12	Genco BH	4.11	В	Glass for M-1221	Box Bowl	12	31/2	******	(2) 50-60	6	27
5561x8x8	Genco BH	3.15	C	Glass for M-1232		8	8	*****	100	12	50
5910	Sudan	.63	В	Glass for M-764x5		51/2	43/4	21/4	25-40-50	36	40
G-234	Ruby Exit	2.22	В	Glass for M-1225	Sidewall—3" Letters	41/2x41/2	51/4	31/4	15-25-40	12	16

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

SCHEDULE 2E

F. O. B. Monaca, Pa.



#### The Trojan

The Ivanhoe Trojan distributes diffused light both above and below the mounting plane. The light density Genco glass produces pleasing, delightful illumination in all directions without sharp shadows, or annoying glare.

#### The Juno

The contour of the Juno is a desirable variation from the typical enclosing globe and was designed for efficient distribution and to avoid excessive brightness. The light density of the Genco glass is of high diffusing quality and low light absorption.

#### The 5807

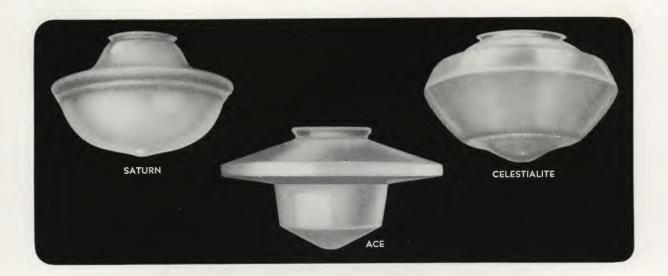
No. 5807 is exceptionally smart and attractive. Designed to fit into any modern scheme of direct lighting. Streamlined and made entirely of efficient Genco diffusing glass.

#### The 5869

No. 5869 brings a new beauty of appearance. It gives a touch of distinction and radiates an atmosphere of attractiveness that makes it ideal for most commercial locations. The Genco glass is of light density with high diffusing quality and low light absorption.

		List.						Standard	Package	Net Charge for Std
Catalog Nu	ımber	Price Each	Del.* Code	Diam.	-Dimensions in Inches Depth	Fitter	Lamp Wattage	Quantity	Shipping Wt., Lbs.	Bottom Hole each
					IVANHOE	TROJA	N			
5264x9	Genco	\$1.11	A	9	57/8	4	60-100	12	28	\$0.08
5264x10	Genco	1.74	A	10	73/8	4	100-150	4	12	.08
5264x12x4	Genco	2.97	A	12	$7\frac{3}{4}$	4	100-150	4	17	.13
5264x12x6	Genco	2.97	A	12	$7\frac{3}{4}$	6	100-150	4	17	.13
5264x14	Genco	3.81	A	14	9	6	150-200	2	11	.13
5264x16	Genco	5.61	A	16	$10\frac{1}{4}$	6	200-300-500	2	13	.17
5264x18x6	Genco	8.67	A	18	$11\frac{1}{4}$	6	300-500	1	10	.25
5264x18x8	Genco	8.67	В	18	$11\frac{1}{4}$	8	300-500-750	1	10	.25
5264x22	Genco	24.24	D	22	$14\frac{1}{8}$	10	500-750-1000	1	18	.75
					IVANHO	E JUNC	)			
5243x6	Genco	.81	C	6	55/8	31/4	40-60	12	16	.04
5243x9	Genco	1.11	A	9	57/8	4	60-100	12	28	.08
5243x12x4	Genco	2.97	A	12	$7\frac{1}{2}$	4	100-150	4	17	.13
5243x12x6	Genco	2.97	A	12	$7\frac{1}{2}$	6	100-150	4	17	.13
5243x14	Genco	3.81	A	14	$8\frac{5}{8}$	6	150-200	2	11	.13
5243x16	Genco	5.61	A	16	$9\frac{1}{2}$	6	200-300-500	2	13	.17
5243x18	Genco	8.67	C	18	$10\frac{7}{8}$	8	300-500	1	10	.25
					IVANHO	OE 5807				
5807x10	Genco	1.74	В	10	5 1/4	4	100	4	12	.08
5807x12x4	Genco	2.97	В	12	267/6	4	150	4	17	.13
5807x14	Genco	3.81	В	14	81/4	6	200	2	11	.13
5807x16	Genco	5.61	В	16	Tx9/4	6	200-300	2	13	.17
					IVANHO	DE 5869				
5869x10	Genco	1.74	В	10	7	4	100-150	4	12	.08
5869x12x	4 Genco	2.97	В	12	8	4	100-150	4	17	.13
5869x14	Genco	3.81	A	14	83/4	6	200	2	11	.13
5869x16	Genco	5.61	A	16	103/8	6	200-300-500	2	13	.17
5869x18x		8.67	D	18	$11\frac{1}{2}$	6	300-500	1	10	.25
5869x18x	8 Genco	8.67	D	18	$11\frac{1}{2}$	8	300-500-750	1	10	.25
						_				

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.



#### Ivanhoe Saturn

The Saturn provides soft, pleasing illumination without sharp shadows, harsh or annoying glare. The lower portion is of crystal cased opal glass, reflecting the greater portion of light upward and transmitting a small percentage of the light downward without glare—upper portion is crystal glass. Two thirds of the light is directed to the ceiling which acts as a reflector. Top is acid etched inside. Intended for use with inside frosted lamps.

#### Ivanhoe Ace

The Ace is a direct lighting unit made of one piece of crystal glass, enameled with a special enamel, fired on the upper surface and edge to reflect light downward, and on the outer surface of the bowl to diffuse the light

and prevent glare with but very little light absorption. An aluminum deflector is supplied with each piece of Ace glassware. This deflector fits in over the top opening inside the holder and reflects downward, light that would otherwise be lost.

#### Ivanhoe Celestialite

The Celestialite blends with daylight. It is made of these three layers of different glasses: 1. An outside layer of clear crystal glass to provide body and strength with minimum absorption of light. 2. A middle layer of translucent white glass to diffuse the light evenly and without glare. 3. An inside layer of special light-rectifying transparent blue glass to eliminate some of the red and yellow rays and produce a soft white light.

0.1	List Price	Del.*		Dimensions in Inch	es	Lamp	— Standard	l Package — Weight,	Net Charge for Std. 1/8" Bottom Hole
Catalog Number	Each	Code	Diameter	Depth	Fitter	Wattage	Quantity	Pounds	Each
				IVANHO	E SATURN	Į.			
5869x14 CC	\$ 7.25	A	14	83/4	6	200	2	16	\$0.13
5869x16 CC	9.12	A	16	103/8	6	300-500	2	20	.17
5869x18x6 CC	12.99	В	18	$11\frac{1}{2}$	6	300-500-750	1	14	.17
5869x18x8 CC	12.99	В	18	$11\frac{1}{2}$	8	300-500-750	1	14	.25
				IVANI	IOE ACE				
5108x14 CE	9.45	C	14	$7\frac{5}{8}$	6	100-150	1	8	
5108x17 CE	13.55	C	17	91/4	6	200-300	1	12	
5108x20 CE	19.15	D	20	$10\frac{7}{8}$	8	300-500	1	20	** ** *********
			1	VANHOE C	CELESTIAL	ITE			
5662x9 Cel.	2.64	В	9	61/4	4	60-100	8	25	.08
5662x12x6 Cel.	7.11	В	12	81/8	6	100-200	1	7	.13
5662x14 Cel.	9.15	В	14	$9\frac{1}{2}$	6	150-200	1	8	.13
5662x16 Cel.	13.47	B	16	105/8	6	300-500	1	13	.17
5662x18 Cel.	20.79	В	18	$12\frac{1}{2}$	8	300-500-750	1	17	. 25
5662x26 Cel.	120.00	D	26	18	16	1000-1500	1	50	2.50

Note: 5662x26 is supplied standard with 1" bottom hole for support from bottom.

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

IVANHOE

SCHEDULE 2E

F. O. B. Brooklyn, N.Y.



#### Ivanhoe Silvo

Silvo glass is the result of years of research and development. It is a combination of white and blue glass blended into a homogeneous glass of the finest texture, blue white in appearance and which emits light of daylight quality. It meets the highest standard of quality and efficiency.

When unlighted, Silvo glass has a slight bluish

tint, and when lighted is snow white. It provides a high level of illumination with minimum brightness.

The appearance of this glass, and the range of pleasing contours, makes it highly desirable for use in stores, schools, offices, hospitals and similar commercial locations.

Catalog		List Price	Delivery*	Dimer	nsions in Inch	es	Lamp	Standard	d Package Weight,	Net Chg. for Std. 7/6" Bot.
Number		Each	Code	Diam.	Depth	Fitter	Wattage	Quantity	Pounds	Hole, Each
5662x9	Silvo	\$1.32	В	9	$6\frac{1}{4}$	4	60-100	8	22	\$.08
5662x12x6	Silvo	3.57	В	12	81/8	6	100-150	1	51/2	.13
5662x14	Silvo	4.56	В	14	$9\frac{1}{2}$	6	150-200	1	8	.13
5662x16	Silvo	6.75	В	16	105/8	6	300-500	1	12	.17
5662x18	Silvo	10.41	С	18	$12\frac{1}{2}$	8	300-500-750	1	17	.25
11300x93/8	Silvo	1.32	С	93/8	53/8	4	60-100	12	30	.08
11300x1/8		3.57	Č	113/8	$7\frac{3}{8}$	4	100-150	1	$5\frac{1}{2}$	.13
11300x12x6		3.57	Č	113/8	73/8	6	150-200	1	51/2	.13
11300x14	Silvo	4.56	C	133/8	83/8	6	150-200	1	8	.13
11300x16	Silvo	6.75	C	153/8	93/8	6	300-500	1	12	.17
11300x18	Silvo	10.41	C	$17\frac{3}{8}$	103/8	6	300-500	1	17	.25
11300x22	Silvo	29.10	D	22	$12\frac{5}{8}$	14	750-1000-1500	1	35	.75
11531x93/8	Silvo	1.32	C	93/8	$7\frac{1}{4}$	4	60-100	8	22	.08
11531x113/8		3.57	C	$11\frac{3}{8}$	$8\frac{1}{4}$	4	100-150	1	$5\frac{1}{2}$	.13
11531x133/8		4.56	C	$13\frac{3}{8}$	10	6	150-200	1	8	.13
11531x14 7/6	Silvo	4.56	C	14 7/16	11	6	200-300	1	8	.13
11531x153/8		6.75	C	$15\frac{3}{8}$	$11\frac{3}{8}$	6	300-500	1	12	.17
11531x173/8	Silvo	10.41	D	$17\frac{3}{8}$	$12\frac{3}{4}$	6	500	1	17	.25

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

SCHEDULE 2E

F. O. B. Monaca, Pa.



#### Ivanhoe Miscellaneous Glassware

The plain shades and globes as shown provide illumination for bathrooms, kitchens and similar locations. Opal, a white glass, is of light density with high diffusing qualities. Shades marked CRI or CRO are of crystal glass. CRI indicates plain crystal glass roughed inside. CRO indicates clear

crystal glass roughed outside. The rough finish of the glass improves the diffusion of light. CD indicates crystal decorated with colors as listed. CE indicates crystal enameled glass. Both Milglo and Genco indicate glass which has a high diffusing quality and low light absorption.

†Catalog	List Price	Delivery*		Dimensions in Inches—		—Standar Quan	d Package— Shipping
Number	Each	Code	Diam.	Depth	Fitter	tity	Wt., Lbs.
42½ Opal	\$0.51	C	41/4	41/2	$2\frac{1}{4}$	36	28
264 Opal	.78	Α	41/2	6½ Len.	21/4	24	20
355½ CRO 355½ CD-48 Tan 355½ CD-48 Blue 355½ CD-48 Rose	.27 .45 .45 .45	A C C C	4 <sup>3</sup> / <sub>4</sub> 4 <sup>3</sup> / <sub>4</sub> 4 <sup>3</sup> / <sub>4</sub>	4 <sup>5</sup> / <sub>8</sub> 4 <sup>5</sup> / <sub>8</sub> 4 <sup>5</sup> / <sub>8</sub> 4 <sup>5</sup> / <sub>8</sub>	$2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{4}$	36 36 36 36	30 30 30 30
360½ CRI	.27	В	4	41/4	21/4	36	30
378½ CRI	.27	В	41/4	4 1/2	$2\frac{1}{4}$	36	30
433x8 Opal	.96	A	8	61/2	4	12	25
546½ Opal	.63	C	43/4	41/4	21/4	36	30
52167x8 Milglo 52167x10 Milglo 52167x12x4 Milglo 52167x12x6 Milglo 52167x14 Milglo 52167x16 Milglo 52167x18x6 Milglo 52167x18x8 Milglo	.78 1.41 2.22 2.22 3.00 3.93 6.60 6.60	A A A A A D D	8 10 12 12 14 16 18 18	$ \begin{array}{c} 5\frac{1}{2} \\ 6\frac{3}{8} \\ 8 \\ 9 \\ 10\frac{1}{2} \\ 11\frac{5}{8} \\ 11\frac{5}{8} \end{array} $	4 4 4 4 6 6 6 8	12 4 4 14 2 2 2 1	25 12 20 20 13 18 10
2779 Opal	.78	В	41/2	6 Len.	$2\frac{1}{4}$	24	20
2805 Genco 2805 CE	1.11 2.85	D B	$8\frac{3}{4}$ $8\frac{3}{4}$	6	4	12 12	28 28

<sup>†</sup>When ordering glassware specify by complete number and name as: No. 355½ CD-48 Tan.

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

SCHEDULE 2E

F. O. B. Monaca, Pa.



#### IVANHOE PRESSED AND BLOWN REFLECTORS

Ivanhoe open glass reflectors are of simple but pleasing design. Nos. 2123 and 6032 are of Sudan glass which is a heavy-density opal glass which reflects most of the light and should be used where reflecting efficiency is the prime requisite. No. 6033 is of Druid glass which is a medium density Opal glass with a slight amber tinge. This glass should be used where light above the hanging height of the reflector is essential.

#### IVANHOE MISCELLANEOUS GLASSWARE

Shades Nos. 428, 365, and 5347 provide proper illumination for bathrooms, kitchens, and similar locations. No.

365 is of Crystal glass, roughed inside. The other numbers are of opal glass.

#### IVANHOE BALL GLOBES

Made in the following glasses:

- 1. Clear Crystal glass, clear
- 2. CRI Crystal glass, roughed inside
- 3. Genco-A light weight and highly diffusive white glass
- 4. Opal A light density, highly diffusing glass
- 5. Ruby A light density, clear red glass

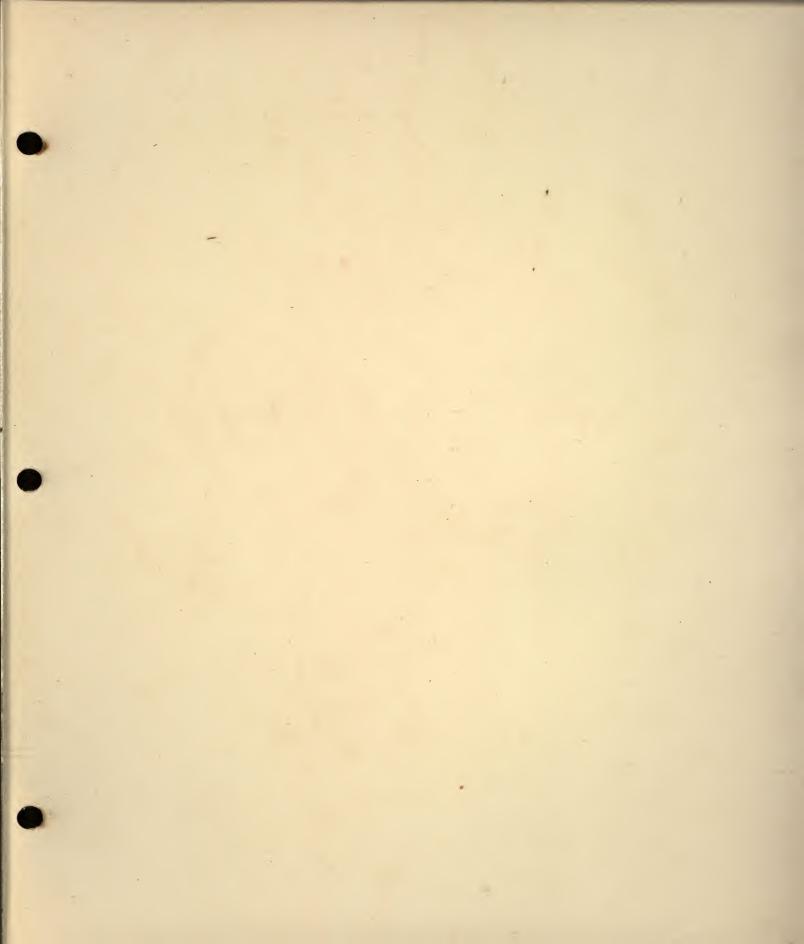
Exit Balls, with the word Exit, sand-blasted on one side of the glass, are made in two popular sizes.

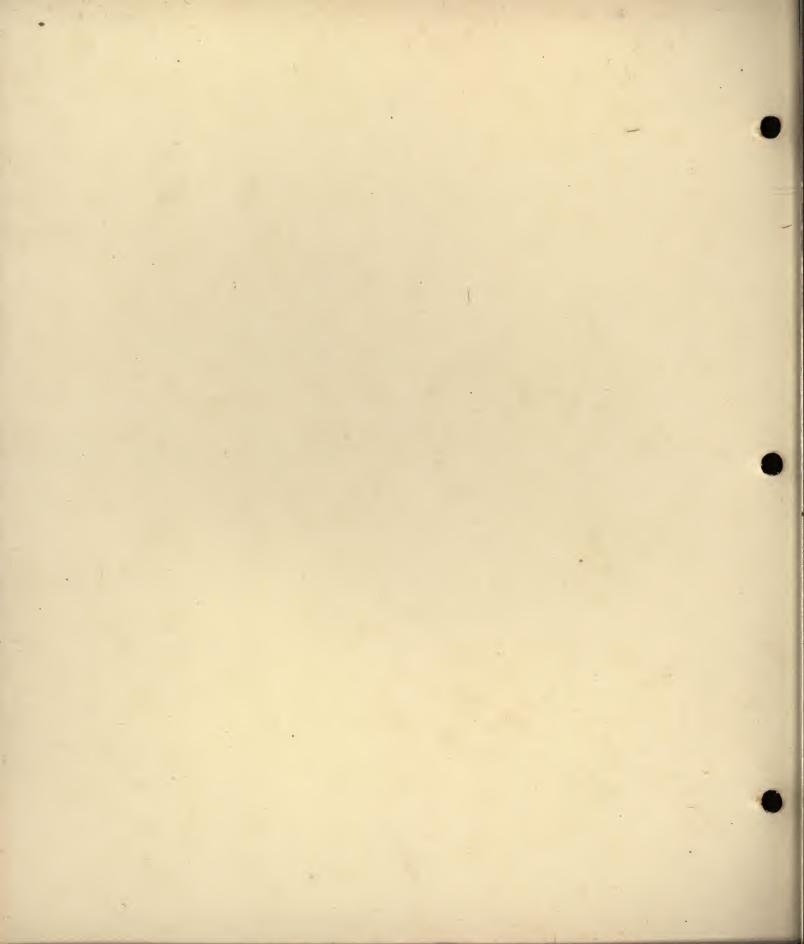
	List	p.1		D:			dard Package
Catalog Number	Price Each	Delivery* Code	Diam.	<ul> <li>Dimensions in Inch</li> <li>Depth</li> </ul>	Fitter	Quan- tity	Shipping Wt., Lbs.
5347 Opal	\$0.84	A	6	41/4	21/4	36	48
6032x9½ Sudan	1.59	В	$9\frac{1}{2}$	43/8	$2\frac{1}{4}$	12	65
6033x6 Druid 6033x8 Druid	.84 1.62	B B	6	$\frac{4\frac{1}{2}}{5\frac{3}{4}}$	$\frac{2\frac{1}{4}}{2\frac{1}{4}}$	36 6	65 22
2123x7 Sudan 2123x9 Sudan 2123x11 Sudan	.84 1.35 1.77	CCC	7 9 11	3 3 <sup>3</sup> ⁄ <sub>4</sub> 4 <sup>3</sup> ⁄ <sub>4</sub>	$2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{4}$	12 12 6	18 25 18
428x6 Opal 428x7 Opal 428x8 Opal	.63 .84 1.17	A A A	6 7 8	4 4 <sup>5</sup> / <sub>8</sub> 5 <sup>1</sup> / <sub>4</sub>	$2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{4}$	36 24 12	35 27 20
365x6 Cri 365x7 Cri 365x8 Cri	.63 .75 1.02	B B B	6 7 7 <sup>3</sup> ⁄ <sub>4</sub>	3 7/8 4 5 1/4	$2\frac{1}{4}$ $2\frac{1}{4}$ $2\frac{1}{4}$	36 24 12	40 35 30
352x6x3 <sup>1</sup> / <sub>4</sub> Cri 352x7x3 <sup>1</sup> / <sub>4</sub> Cri 352x8x3 <sup>1</sup> / <sub>4</sub> Cri 352x8x4 Cri	.60 .75 .96	A C C A	6 7 8 8	$   \begin{array}{c}     6 \\     7^{1} \cancel{4} \\     8^{1} \cancel{4} \\     8^{1} \cancel{4}   \end{array} $	3 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>4</sub>	12 12 12 12	20 25 30 30
412x6x3 <sup>1</sup> / <sub>4</sub> Opal 412x7x3 <sup>1</sup> / <sub>4</sub> Opal 412x8x4 Opal	.66 .84 1.05	A C A	6 7 8	6 7 8	3 <sup>1</sup> / <sub>4</sub> 3 <sup>1</sup> / <sub>4</sub> 4	12 12 12	15 23 30
515x6x3 <sup>1</sup> / <sub>4</sub> Ruby 515x6x3 <sup>1</sup> / <sub>4</sub> Ruby Exit 515x10x4 Cri or Genco 515x10x5 Cri or Genco 515x10x6 Cri or Genco 515x12x6 Cri or Genco 515x12x8 Cri or Genco 515x14x8 Cri or Genco 515x14x8 Cri or Genco 515x16x6 Cri or Genco	1.74 3.12 2.43 2.43 3.66 3.66 5.55 7.80	C D C C C C C C	6 6 10 10 10 12 12 12 14 14	6 6 10 10 10 12 12 12 14 14	3 1/4 3 1/4 4 5 6 6 8 6 8 6	12 12 4 4 4 2 2 2 2	15 15 20 20 20 15 15 17 17
515x16x8 Cri or Genco	7.80	С	16	16	8	1	14

<sup>\*</sup>Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.

#### INDEX

Cat. No. Page	Cat. No. Page	Cat. No. Page	Cat. No. Page
G-234 4	MO-956 3	515x16x6 Cri or Genco 9	5662x18 Silvo 7
M-426 4	MO-957 3	515x16x8 Cri or Genco 9	5662x26 Cel 6
M-427x6 4	MO-13702	539x10 4	5807x10 Genco 5
M-757 3	MO-1371 2	539x12 4	5807x12x4 Genco 5
M-764x5 4	MO-1377 2	546½ Opal 8	5807x14 Genco 5
M-803 4	MO-1378 2	2123x7 Sudan 9	5807x16 Genco 5
M-804 1	MO-1398 2	2123x9 Sudan 9	5869x10 Genco 5
M-805 1	VO-60 4	2123x11 Sudan 9	.5869x12x4 Genco 5
M-850 1	42½ Opal 8	2779 Opal 8	5869x14 CC 6
M-851 1	264 Opal 8	2805 CE 8	5869x14 Genco 5
M-873 1	346x6 4	2805 Genco 8	5869x16 CC 6
M-874 1	352x6x3½ Cri 9	5108x14 CE 6	5869x16 Genco 5
M-903 3	352x7x3½ Cri 9	5108x17 CE 6	5869x18x6 CC 6
M-904 3	352x8x3 <sup>1</sup> / <sub>4</sub> Cri 9	5108x20 CE 6	5869x18x6 Genco 5
M-905 3	352x8x4 Cri 9	5243x6 Genco 5	5869x18x8 CC 6
M-950 3	355½CD-48 Tan 8	5243x9 Genco 5	5869x18x8 Genco 5
M-951 3	355½CD-48 Blue 8	5243x12x4 Genco 5	5910 4
M-954 3	355½CD-48 Rose 8	5243x12x6 Genco 5	6032x9½ Sudan9
M-955 3	355½CRO 8	5243x14 Genco 5	6033x6 Druid 9
M-1220 4	360½CRI 8	5243x16 Genco 5	6033x8 Druid9
M-1221 4	365x6 Cri 9	5243x18 Genco 5	11300x93/8 Silvo 7
M-1225 4	365x7 Cri 9	5264x9 Genco 5	11300x12x4 Silvo 7
M-1229 4	365x8 Cri 9	5264x10 Genco 5	11300x12x6 Silvo 7
M-1230 4	378½ CRI 8	5264x12x4 Genco 5	11300x14 Silvo 7
M-1232 4	412x6x3½ Opal 9	5264x12x6 Genco 5	11300x16 Silvo 7
M-1369 2	412x7x3½ Opal 9	5264x14 Genco 5	11300x18 Silvo 7
M-1370 2	412x8x4 Opal 9	5264x16 Genco 5	11300x22 Silvo 7
M-1376 2	428x6 4	5264x18x6 Genco 5	11531x93/8 Silvo 7
M-1377 2	428x6 Opal 9	5264x18x8 Genco 5	11531x113/8 Silvo 7
M-1397 2	428x7 Opal 9	5264x22 Genco 5	11531x133/8 Silvo 7
M-1398 2		5347 Opal 9	11531x14 <sup>7</sup> / <sub>16</sub> Silvo 7
MO-805 1	433x8 Opal 8	5561x8x8 4	11531x153/8 Silvo 7
MO-851 1	515x6x3 <sup>1</sup> / <sub>4</sub> Ruby 9	5662x9 Cel6	11531x17 <sup>3</sup> / <sub>8</sub> Silvo 7
MO-874 1	515x6x3½ Ruby Exit 9	5662x9 Silvo 7	52167x8 MILGLO 8
MO-904 3	515x10x4 Cri or Genco 9	5662x12x6 Cel 6	52167x10 MILGLO 8
MO-905 3	515x10x5 Cri or Genco 9	5662x12x6 Silvo 7	52167x12x4 MILGLO 8
MO-906 3	515x10x6 Cri or Genco 9	5662x14 Cel 6	52167x12x6 MILGLO 8
MO-951 3	515x12x6 Cri or Genco 9	5662x14 Silvo	52167x14 MILGLO 8
MO-952 3	515x12x8 Cri or Genco 9	5662x16 Cel6	52167x16 MILGLO 8
MO-953 3	515x14x6 Cri or Genco 9	5662x16 Silvo 7	52167x18x6 MILGLO 8
MO-955 3	515x14x8 Cri or Genco 9	5662x18 Cel	52167x18x8 MILGLO 8
MO-933 3	313x14x8 CH of Genco 9	7002X10 CCI 0	JZ1U/X10X0 MILGLO 8







AS THEY SEE, THEY BUY...



Sec. 2F, Page 4, February 1, 1939

Inspected by Underwriters' Laboratories

## IVANHOE Window Floodlight

The Ivanhoe window floodlight No. WF-200 is designed to supplement regular window lighting where a much higher intensity of light is desired on one particular portion of the display. It is made of aluminum with durable, non-tarnishing Alzak finish inside and out.

Once the reflector is mounted on the side-wall or ceiling, it is unnecessary to disturb the mounting to remove the reflector for cleaning, as it can be detached from the neck quickly and easily as shown in the illustration at the right.

The swivel permits the floodlight to be directed at practically any angle. The bracket, swivel, and socket cover are shipped assembled and a six foot cord and plug are furnished.

Many different and attractive color effects may be had with the use of the Gelatin color screens furnished with each reflector.

Schedule 2F, F.O.B. Meriden, Conn.

#### Window Floodlight Complete with Color Screens

G + 1	T *	D-1'	T	Dimension	s, Inches	Standard	Wt., Lbs.,
Catalog Number	List Price	Delivery Code*	I amp Watts	Diameter	Depth		Std. Pkg.
WF-200 \$	7.50	В	200	93/4	83/4	4	8

Floodlight with color screens is packed one complete unit to a carton, four cartons to a standard package.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.





## NDOW REFLECTORS

#### IVANHOE

Sec. 2F, Page 3, February 1, 1939









Schedule 2F, F.O.B. Meriden, Conn.

Catalan	Y 2-4	Delisees		T	Dimension	s, Inches	St	Wt., Lbs.
Catalog Number	List Price	Delivery Code*	Description	Lamp Watts	Diameter	Depth	Standard Package	Std. Pkg.
BALS-150	\$2.10	В	20° Shallow window	150	81/4	73/4	20	18
BALD-150	2.10	В	35° Deep window	150	81/4	$7\frac{1}{2}$	20	18
BALS-200	3.00	C	20° Shallow window	200	93/4	834	20	35
BALD-200	3.00	C	35° Deep window	200	934	81/2	20	35
CS-150	1.40	В	150W Color Screen		83/8	3/1	10	. 5
CS-200	1.50	C	200W Color Screen		9 7/8	3/1	10	7
C Type Hold	ler .20	A	For attaching to porcel	ain sockets			10	1
D Type Hold		A	For attaching to brass s	shell sockets			10	1

All reflectors are packed five to a carton, four cartons to an outer container. \*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.



Sec. 2F, Page 4, February 1, 1939

Inspected by Underwriters' Laboratories

## IVANHOE Window Floodlight

The Ivanhoe window floodlight No. WF-200 is designed to supplement regular window lighting where a much higher intensity of light is desired on one particular portion of the display. It is made of aluminum with durable, non-tarnishing Alzak finish inside and out.

Once the reflector is mounted on the side-wall or ceiling, it is unnecessary to disturb the mounting to remove the reflector for cleaning, as it can be detached from the neck quickly and easily as shown in the illustration at the right.

The swivel permits the floodlight to be directed at practically any angle. The bracket, swivel, and socket cover are shipped assembled and a six foot cord and plug are furnished.

Many different and attractive color effects may be had with the use of the Gelatin color screens furnished with each reflector.

Schedule 2F, F.O.B. Meriden, Conn.

#### Window Floodlight Complete with Color Screens

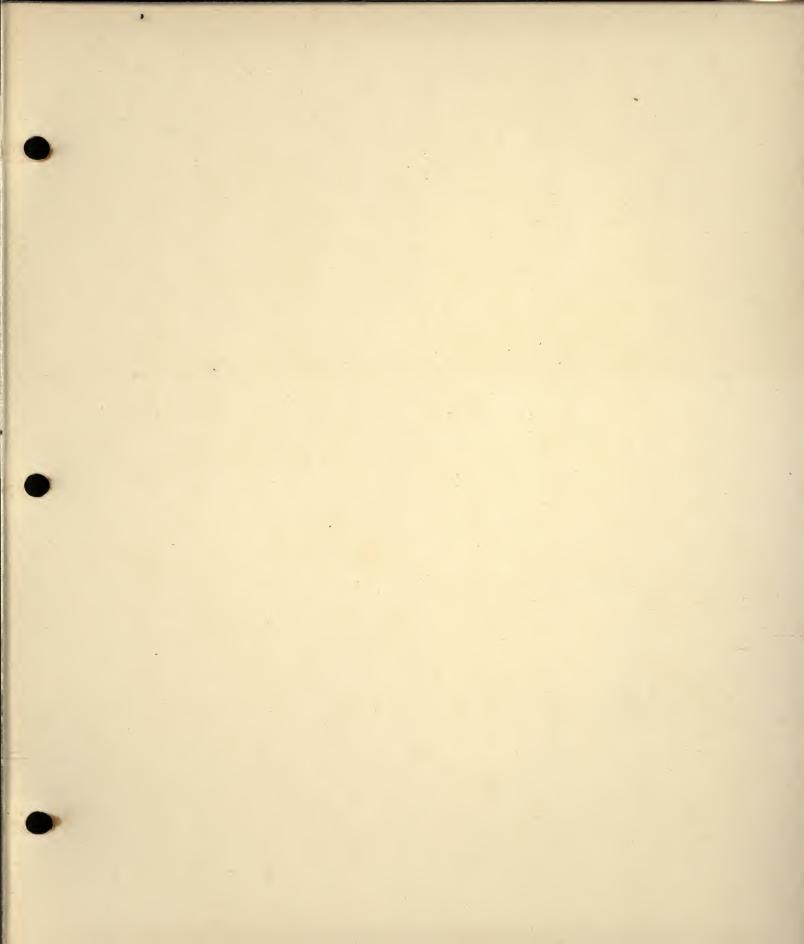
C-+-1	Tital	Delivery	I amp	Dimension	ns, Inches	Standard	Wt., Lbs.,
Catalog Number	List Price	Code*	Watts	Diameter	Depth		Std. Pkg.
WF-200	\$7.50	В	200	93/4	83/4	4	8

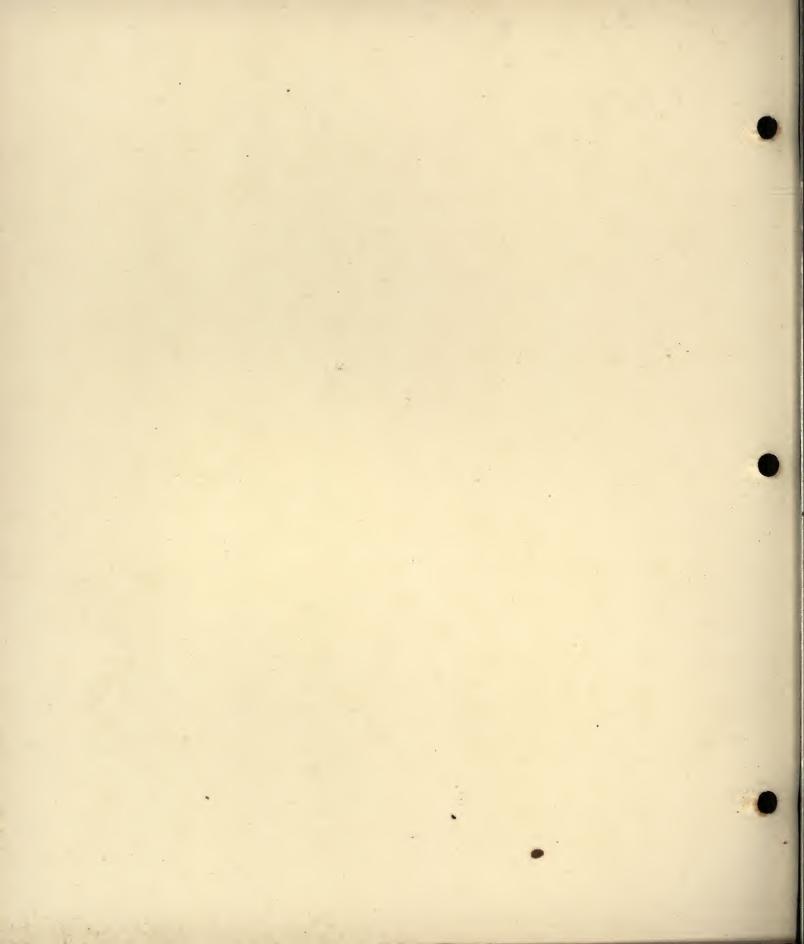
Floodlight with color screens is packed one complete unit to a carton, four cartons to a standard package.

\*Time required to fill orders: A=48 hours; B=1 week; C=2 weeks; D=3 to 4 weeks.











## MILLER FLUORESC



## ENT -- THE IDEAL UNITS FOR COLOR DISCRIMINATION

The two new Miller Fluorescent counter units place the finest artificial daylight on store counters . . . daylight of the quality of natural noon-sunlight that lets customers see goods as they would see them out of doors . . . in the true beauty of their actual colors.

Up to this time, artificial daylight has only been obtainable by the use of costly filter equipment, which was necessary to reduce the proportion of the red and yellow rays in ordinary Mazda lamps in order to produce light of daylight quality. But the new Miller FLUORESCENT units produce daylight directly—no rays to screen out—from the light source . . . the remarkable new FLUORESCENT DAYLIGHT MAZDA lamp . . . the nearest approach to actual daylight ever achieved at high efficiency.

Miller FLUORESCENT counter units are particularly economical to operate because they use only a 15-watt FLUORESCENT lamp. With the Magnetic switch type of auxiliary used in FL-719, practically instantaneous lighting and re-lighting of lamp is assured. With the Thermal type switch, used in FL-718, there is slight delay of from two to five seconds.

shops, shoe stores, jewelers, haberdashers, tailors, millinery shops, artist supply and paint stores, or any other store where accurate color discrimination is essential to speed the sale of merchandise.







#### AMAZING ADVANTAGES OF FLUORESCENT DAYLIGHT MAZDA LIGHTING

#### SIX UNIQUE FEATURES

- Gives several times more light than ordinary lamps of the same wattage.
- Nearest approach to daylight ever produced at high efficiency.
- 50% cooler for same amount of light . . . and looks cooler.
- No finer light for color discrimination.

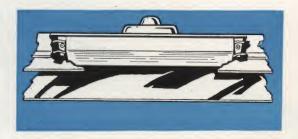
- No glare . . . the high intensity of light is so soft and evenly distributed that you do not realize that there is as much light as there is.
- The production of daylight illumination at source, eliminates the wasting of wattage—as in Mazda lamps, where it is necessary to filter out excess red and yellow light. Five times as efficient, too.

## HIGH EFFICIENCY . . . FLEXIBLE LIGHTING AT LOW COST



#### FLUORESCENT MAZDA LAMP

The 15-watt Fluorescent Daylight Mazda Lamp used in Miller counter units is 17¾ inches long. Fluorescent coating inside the tube converts ultra-violet energy into visible light—several times as much as ordinary Mazda lamps. The lamp has a life of 1,500 hours.

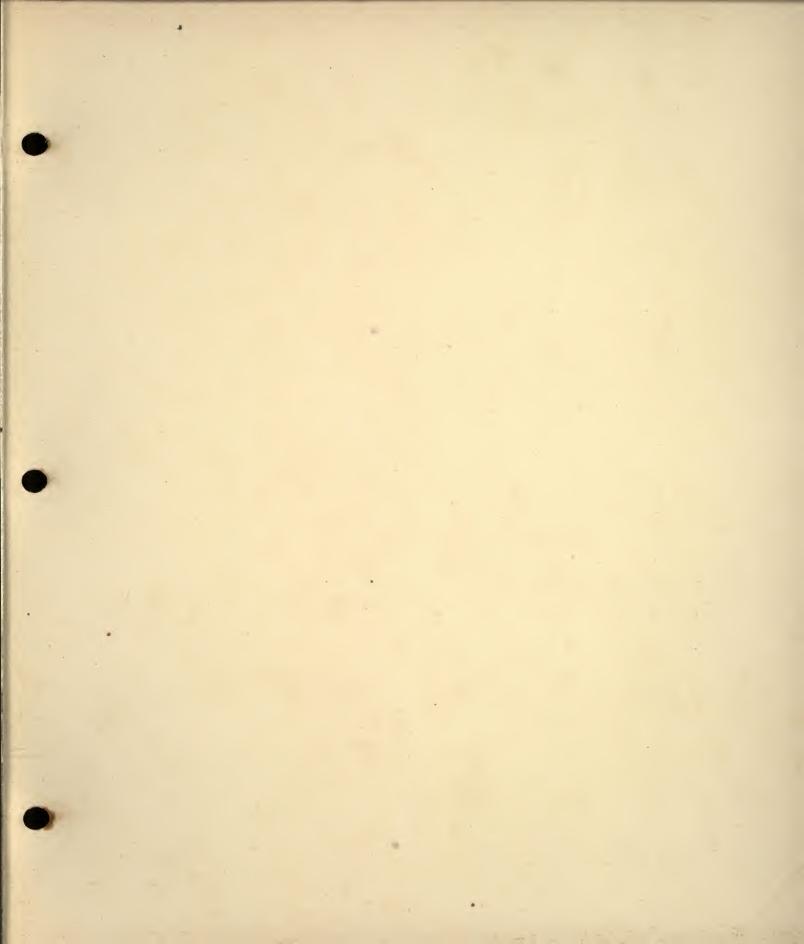


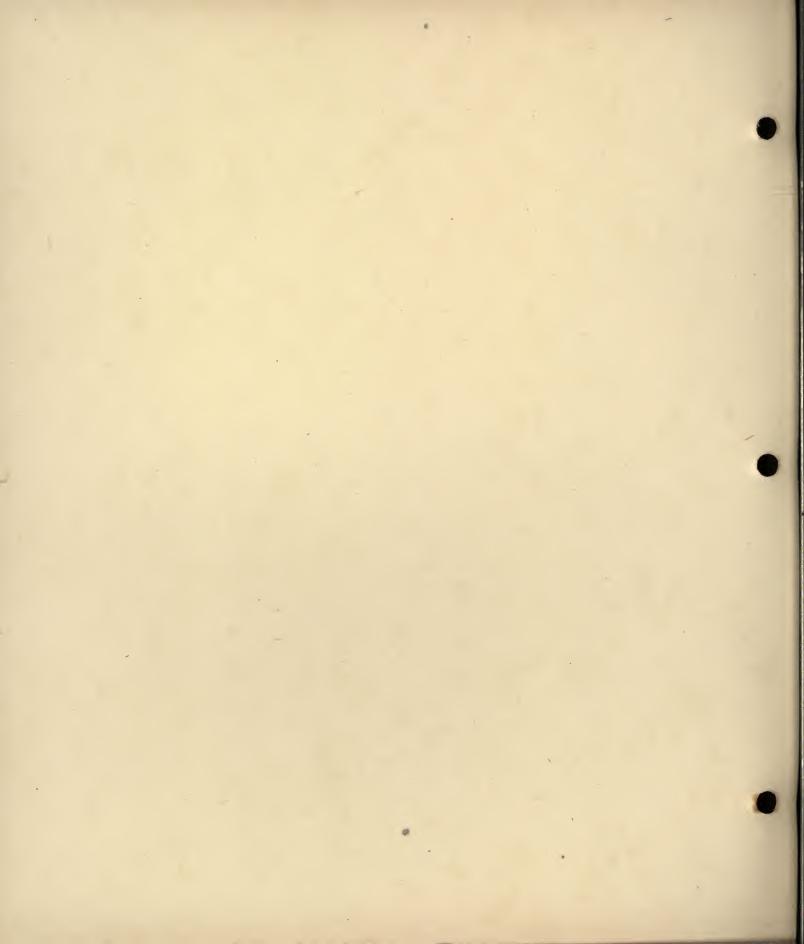
#### THE BUILT-IN OPERATING AUXILIARY

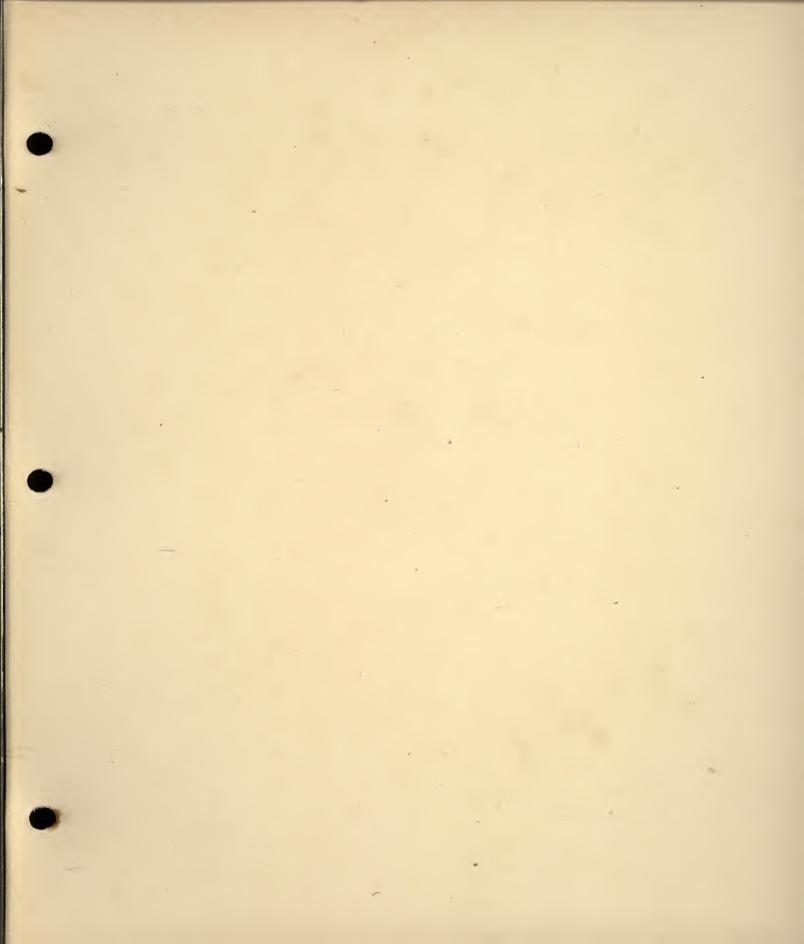
Cross section of Thermal type switch, built in reflector trough of FL-718. (Magnetic type switch used in FL-719 is built into base) With both of these operating auxiliaries, the 15-watt Fluorescent lamp can be operated on 110-120 volt, 60 cycle, AC circuits.

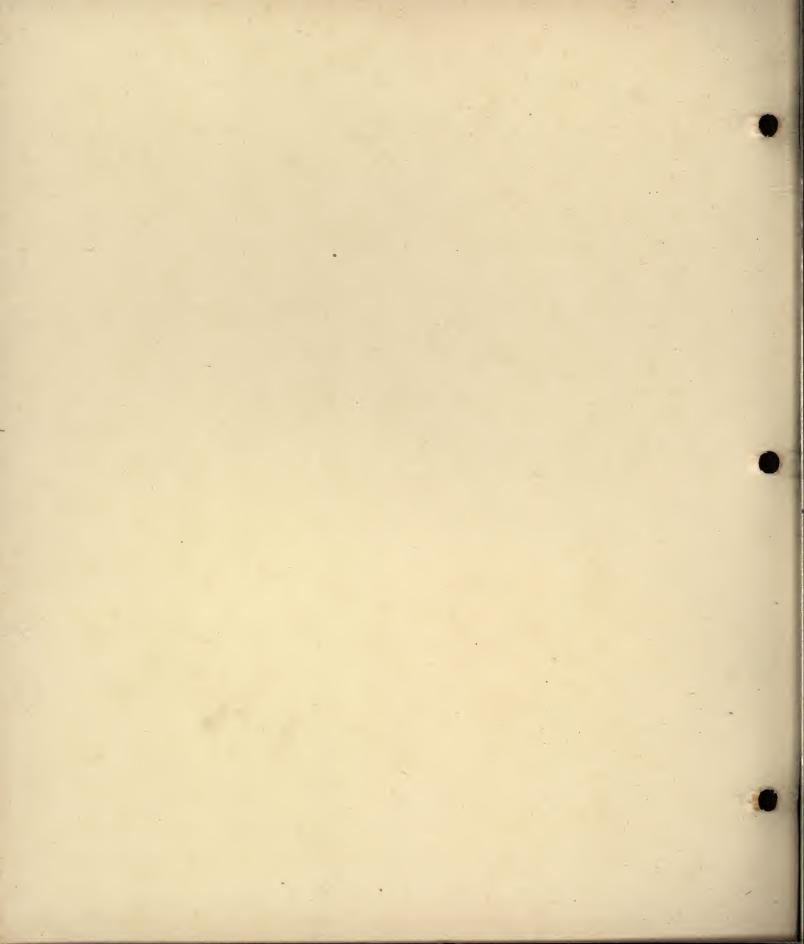
#### THE MILLER COMPANY

MERIDEN, CONN.
Pioneers in Good Lighting Since 1844









# Miller

LIGHTING ATTACHMENTS

The RENU-A-LITE

ENCLOSING GLOBE

and

REFLECTOR TYPES

The MILLER COMPANY

MERIDEN, CONN.

The RENU-A-LITE is an attachment type lighting fixture for use in kitchens, bathrooms, basements, play rooms, small stores, service stations, and similar locations. It screws into ordinary light sockets same as a Mazda lamp. Takes less than two minutes to attach. No tools or wiring required. Transforms old fixtures into efficient modern lighting units. Produces the same lighting results as the most modern

higher priced units.

Renu-a-lite is attractively designed. It is easy to clean. The metal holder is of vitreous porcelain enamel. It will not peel or discolor. The enclosing globe type is available with or without porcelain enamel baffle plate. The white globe of highest quality diffusing glass comes in a choice of two shapes and sizes.



THE RENU-A-LITE WITH No. 433 GLASS

No. M 900-10

No. M 800-10 (with baffle)



Renu-a-lites Nos. M 800-10 and M 823 are equipped with an inner porcelain enameled baffle plate. With this baffle, lamp bulbs no smaller than 100 watt size can be used. Assures maximum efficiency at all times.

#### THE RENU-A-LITE. (Bulk Packed)

Catalog Number	Finish	List Price Each	Del. Code	Recom'd Lamp Wattage	No. and Size of Glass Inches	Lgth. Inches	Std. Qty.	Pkg. Wt. Lbs.
M 900-10	White Porcelain Enamel	\$1.60	A	60-150	433x8	9	10	25
	THE RENU-A-LIT	E. (Bulk	Packed,	Complete	with Baffle	Plate)		
м 800-10	White Porcelain Enamel	1.80	A	100-150	433 <b>x</b> 8	9	10	27

NOTE: The above can be supplied packed one complete unit to a carton-prices on application.

#### THE RENU-A-LITE WITH No. 52167 GLASS AND HOLDER FOR PERMANENT INSTALLATION

No. M 845—Has white paint enameled ceiling holder for permanent installation. Supplied with cross-bar and screws for attaching to outlet box. Canopy shell has an eyelet for pull chain socket and knockout for canopy switch. Supplied complete with medium socket. Packed one to a carton.





#### THE RENU-A-LITE WITH No. 52167 GLASS AND HOLDER FOR ATTACHMENT TO ORDINARY LIGHT SOCKETS

No. M 823 (with baffle). The metal holder, being of vitreous porcelain enamel, will not peel or discolor. No tools or wiring required to install. Screws into ordinary light socket same as a Mazda lamp.

#### THE RENU-A-LITE (Individually Packed)

		List		Recom'd	No. and Size		Std.	Pkg.
Catalog Number	Finish	Price Each	Del. Code	Lamp Wattage	of Glass Inches	Lgth. Inches	Qty.	Wt. Lbs.
M 845	White Enamel	\$2.20	A	100-150	52167x10	10	1	4
M 823	White Porcelain Enamel	2.20	A	100-150	52167x10	8	1	4



#### REFLECTOR TYPE RENU-A-LITES

These Renu-A-Lites are ideal for use in small shops, garages, basements, lofts and similar locations. They improve lighting easily, quickly and economically. They are made of steel—porcelain enameled—gun metal outside—white inside.



Screws into ordinary light socket same as a Mazda lamp — no tools or wiring required.

No. AED-8 No. AED-10 No. AED-12



#### No. DM 936

This Renu-a-lite is finished white matte inside for use with 100 watt Silvered Bowl Mazda lamps.

Catalog	List Price	Del.	Recom. Lamp	— Dimension	ns in Inches —	Std.	. Pkg.
Number	Each	Code	Wattage	Diam.	Depth	Qty.	Wt. Lbs.
AED-8	\$ .95	A	25	8	41/2	10	10
AED-10	1.10	$\mathbf{A}$	40	10	5	10	15
AED-12	1.25	$\mathbf{A}$	60-100	12	$51/_{2}$	10	20
DM 936	1.50	$\mathbf{A}$	100 Silvered Bowl	12	$6\frac{1}{2}$	5	10

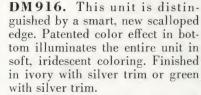


#### FOR ATTACHMENT TO ORDINARY LIGHT SOCKETS



DM 919. Bathed in iridescent ➤ light from the bottom and attractively finished in ivory with silver trim or green with silver trim, this

graceful unit makes a beauty spot



**DM 41A.** Same as above, but with plain instead of scalloped edge and with different finishes.





in any room.

← DM 42A. Modern lighting and modern style meet in this unit. Finished in ivory with black trim or green with gold. An appreciable amount of light is transmitted through the glass bottom disc to the working plane. The disc is of high quality Genco diffusing glass.

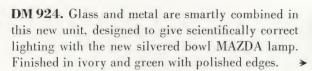
		List				Dimensio	ns — Inches		
Catalog Number	Finish	Price Each	Del. Code	Lamp Wattage	Type Socket	Diam.	Lgth. Overall	Qty.	. Pkg. Wt. Lbs.
DM 41A	Ivory with Black Trim	\$1.80	A	100-150	Medium	11	$71/_{4}$	1	5
DM 41A	Green with Gold Trim	1.80	A	100-150	Medium	11	$71/_{4}$	1	5
DM 42A	Ivory with Black Trim	2.50	A	100-150	Medium	12	$71/_{2}$	1	5
<b>DM 42A</b>	Green with Gold Trim	2.50	A	100-150	Medium	12	$71/_{2}$	1	5
DM 916	Ivory with Silver Trim	1.80	$\mathbf{A}$	100-150	Medium	11	9	1	6
DM 916	Green with Silver Trim	1.80	$\mathbf{A}$	100-150	Medium	11	9	1	6
DM 919	Ivory with Silver Trim	2.75	$\mathbf{A}$	150-200	Medium	14	10	1	$6\frac{1}{2}$
DM 919	Green with Silver Trim	2.75	A	150-200	Medium	14	10	1	$61/_{2}$

#### FOR ATTACHMENT TO ORDINARY LIGHT SOCKETS



DM 925. The scalloped edge and gleaming polished trim against soft ivory and gray make this 

✓ one of the smartest attachments of the year. Used with the new Silvered Bowl MAZDA lamp, it delivers controlled, well-balanced lighting free from shadow or glare.



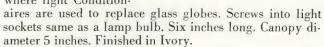




No. DM 940—An extremely practical Light Conditionaire with wide application. Clips on to silvered bowl lamp bulbs of single and multi lamp types of ceiling fixtures. Converts them into new and efficient lighting units. Perforations in bowl insure proper ventilation. Parts that touch the lamp are heat insulated. Choice of finishes — Ivory or plated Bronze.

## SOCKET EXTENSION FOR CHANGING OVER GLASS GLOBE HOLDERS

No. DM 949—Where extra length is desired, this attachment type suspension is particularly desirable. The canopy which is held in place by a check ring conceals the inside of ceiling holders where light Condition-





Catalog Number	Finish	List Price Each Less Silvered Bowl Lamp	Del. Code	Silvered Bowl Lamp Wattage	Type Socket	Dimension	ns — Inches Lgth. Overall	Std.	. Pkg. Wt. Lbs.
DM 924	Ivory and Green with Polished Edges	\$3.00	A	150	Medium	12	61/2	1	5
DM 925	Ivory and Gray with Polished Edges	2.20	A	150	Medium	$12\frac{1}{4}$	7	1	5
DM 940	Ivory	.35	A	60	******	$5\frac{1}{2}$	$2\frac{1}{2}$	60	35
DM 940	Bronze	.35	A	60	******	51/2	$2\frac{1}{2}$	60	35
DM 949	Ivory	.75	В	_	Medium	5	6	10	10

#### FOR PERMANENT INSTALLATION



No. DM 934—A smart fixture for use with the Silvered Bowl Mazda lamp in locations where permanent installation is desired. It is of the same design as No. DM 924 but has the added ceiling suspension. The glass bottom plate is softly luminous. The canopy is  $51/_8$  inches in diameter. Finished in ivory and green with polished edges.

No. DM 935—Of the same design as No. DM 925, this fixture has a ceiling suspension for permanent installation. For use with the Silvered Bowl Mazda lamp. Attractively finished in soft ivory and gray with brilliantly polished scalloped edge and trim. Light from the metal bottom louvre softly illuminates the entire unit. The canopy is 5½ inches in diameter.



Catalog Number	Finish	List Price Each Less Silvered Bowl Lamp	Del. Code	Silvered Bowl Lamp Wattage	Type Socket	Dimension	ls — Inches Lgth. Overall	Std Qty.	. Pkg. Wt. Lbs.
DM 934	Ivory and Green with Polished Edges	\$4.50	A	150	Medium	12	93/4	1	6
DM 935	Ivory and Gray with Polished Edges	3.90	A	150	Medium	$12\frac{1}{4}$	93/4	1	6

Inspected by Underwriters' Laboratories.

SCHEDULE 3B

F.O.B. Meriden, Conn.

#### THE MILLER COMPANY

MERIDEN

CONN.

#### MILLER LIGHT TRAP CAPTURES NIGHT FLYING PESTS

#### THE LIGHT DRAWS THEM LIKE A MAGNET-NO SMELL-NO SMOKE

The Miller Light Trap can be used effectively to trap and destroy flying insects of all types. Its record in use shows it to be a practical, sensible device. You only have to see it brilliantly lighted with the flying insects steadily streaming their way towards its interior, to realize how, through the simple expedient of funneled openings, it becomes amazingly interesting to all night flying insects. Strangely enough these insects are determined to find their way inside and they succeed. While it is attracting and trapping them, it also furnishes excellent seeing or selling light without extra cost.

Widely used on back porches and front porches to attract and dispose of all night flying insects, its low cost and excellent illuminating service makes it an A-1 investment for year around service.

The Miller Light Trap was designed for catching, not only codling moths, but all nocturnal moths and night flying insects. Simple in design, attractive in appearance, it is used suitably for porches, kitchens, stores, hotels, camps, schools, in gardens and even in orchards, wherever flying insects abound and prove a pest.

Consists of a glass globe made of Genco diffusing glass, having its sides pierced with three funneled slots leading to the light bulb. It comes with and without removable bottom for dumping accumulations of dried insects. The Miller Light Trap is available with ceiling holder for permanent installation and also with portable attachment fitter for attaching to ordinary light socket. Uses a 100-watt or 150-watt MAZDA lamp, as desired. Satisfactory operating results will not be guaranteed if lamps smaller than 100 watt size are used.

Operation of the device is simple and direct. Light invites and attracts the moths and the superheated air exterminates them.

The Miller Light Trap is patented. It has three distinct advantages: (1) It is safe—no poisons or baits are used—nothing except the heat from the light. (2) It works at low cost—serving as trap and at the same time supplies light. (3) It is clean—gives off no odor. (4) There is no danger of electrical shock.

The Miller Light Trap for flying insects has been carefully tested and used with satisfactory results at experimental farms in various parts of the country. In this type of service, it has proven to be effective. On a warm night its "catch" has ranged from 1,000 to 1,500 insects.



SCHEDULE 3B

Inspected by Underwriters' Laboratories.

F.O.B. Monaca, Pa.

#### MILLER LIGHT TRAP WITHOUT REMOVABLE BOTTOM

(Pat. No. 1,981,683)



Attachment Type Catalog No. M-818

Screws into ordinary light socket same as a Mazda lamp.



No. M-818 is easy to attach. No tools or wiring required.



Ceiling Type Catalog No. M-817

#### MILLER LIGHT TRAP (without removable bottom) Complete with Glassware

Catalog Number		List Price Each Complete with	De- livery	Recom'd Lamp	Diam.		- Incl Length		Std. Pkg. Wt.,		
Complete with Glass	Finish	Glass	Code	Wattage	Canopy	Glass	Overall Fitter		Qty.	Lbs.	
M-817	Statuary Bronze	\$3.65	A	100-150	$5\frac{1}{4}$	81/4	11	4	12	30	
M-818	White Porcelain Enamel	3.45	A	100-150	_	81/4	$10\frac{1}{4}$	4	12	35	

NOTE: Complete units are packed one to a carton-12 to a standard package.

#### REPLACEMENT GLASSWARE SCHEDULE 3-B, F.O.B. MONACA, PA.

0 1	T . D .	Delivery		-Dimensions - Inche	5	Std. Pkg.		
Catalog Number	List Price Each	Code	Diam.	Depth	Fitter	Qty.	Wt., Lbs.	
2801 Genco	\$2.35	A	81/4	$7\frac{1}{2}$	4	12	18	

SCHEDULE 3B

Inspected by Underwriters' Laboratories.

F.O.B. Monaca, Pa.

#### MILLER LIGHT TRAP WITH REMOVABLE BOTTOM

(Pat. No. 1,981,683)



No. M-828 is easy to attach. No tools or wiring required. Attachment Type with removable bottom. Catalog No. M-828

Screws into ordinary light socket same as a Mazda lamp.





Ceiling Type with removable bottom. Catalog No. M-827



Bottom is easily removed for dumping of dried insects.

#### MILLER LIGHT TRAP (with removable bottom) Complete with Glassware

Catalog Number Complete with Glass	Finish	List Price Each Complete with Glass	De- livery Code	Recom'd Lamp Wattage	Diam.	- Inch Length Overall	Std.	Pkg. Wt., Lbs.
M-827	Statuary Bronze	\$4.50	A	100-150	 		 12	30
M-828	White Porcelain Enamel (Bottom Cap is Dull Aluminum)	4.30	A	100-150			12	35

NOTE: Complete units are packed one to a carton-12 to a standard package.

#### REPLACEMENT GLASSWARE SCHEDULE 3-B, F.O.B. MONACA, PA.

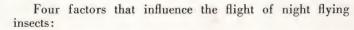
Catalog	List Price	Delivery ~	Di	St	d. Pkg.		
Number	Each	Code	Diam.	Depth	Fitter	Qty.	Wt., Lbs.
2909 Genco	\$3.20	A	81/4	$73/_{4}$	4	12	18
lass includes botto	om cap.						

Inspected by Underwriters' Laboratories.

#### MILLER LIGHT TRAP CAPTURES NIGHT FLYING PESTS







- 1. **Temperature:** Whenever the temperature goes below 70 degrees, the catch of bugs shrinks. When it goes above 70 degrees, the catch increases.
- 2. **Moisture.** In general, the less moisture, the better the catch. Light showers do not seem to affect the catch, but heavy showers stops all flight.
- Wind: High winds are unfavorable for high catches.
   The best catches occur when there is no wind, or very little wind.
- 4. Clouds: A cloudy sky at night seems to make for greater attraction of the trap and insures heavier catches. On moonlight nights the insects seem to have less interest in the trap.







#### FOR STORES, HOTELS, HOMES, ETC.

Many stores have a serious problem as a result of flying insects when they keep their display windows lighted at night.

The Miller Light Trap will help every store of this type. Cuts down washing expense.

Every roadside stand using lights to attract attention is bothered by bugs or flying insects. The Miller Light Trap will make the place more comfortable for owner and customer.

In summer resorts when lights are kept on for card playing, dances, etc., the Miller Light Trap will draw the insects to the trap and away from the dance floor, giving everybody greater comfort, without any additional cost for lights. One has only to try the Miller Light Trap to become convinced of its practical value.

#### POINTS WHERE ITS USE IS INDICATED

Porches, kitchens, gardens, orchards, summer resorts, roadside stands, hospitals, camps, hotels, schools, vineyards, stores — to protect display windows, warehouses, railroad stations. Can be used effectively for corn and cotton moth control, infestation control and entomology specimens.

### THE MILLER COMPANY MERIDEN • CONN.

SCHEDULE 3B

F.O.B. Meriden, Conn.

Inspected by Underwriters' Laboratories

#### PORTABLE WALL BRACKETS

#### For use in stores, offices, auditoriums and similar locations.

Miller portable wall brackets were designed primarily to provide supplementary lighting to build up intensities in offices, stores, auditoriums, etc. — especially those locations where if larger lamps were installed in existing equipment, the brightness would be extremely objectionable. They fasten to wall with ordinary push pin supplied with each unit. Come complete with cord and plug ready for use.

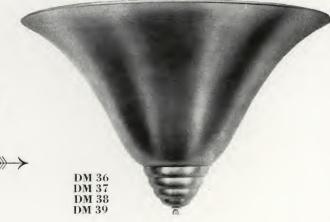
#### ← MO. MO 1200

Has body of cast aluminum into which is inserted an aluminum reflector which may be easily removed for cleaning. This reflector has an inner reflecting surface of non-tarnishing Alzak Aluminum and is designed to direct an even distribution of light over a reasonable area. A baffle is incorporated within the reflector to eliminate any unusual brightness on the wall surface. A 500 watt Mazda CX lamp bulb is recommended for best results, but a 250 watt torchere type lamp bulb may be used by inserting a standard adaptor to properly position the lamp filament in relation to the reflector. Has toggle switch.

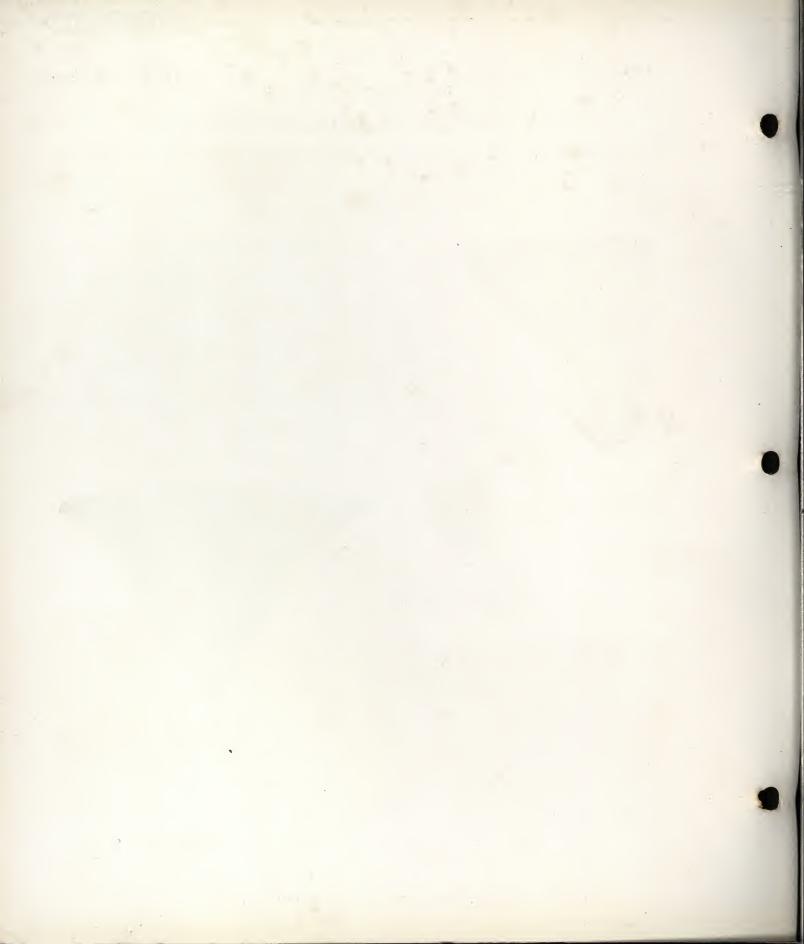
No. MO 1202 is the same as above but is equipped with a Tri-Lite socket and switch for use with 100-200-300 watt double filament torchere type lamp bulb to provide three intensities of light.

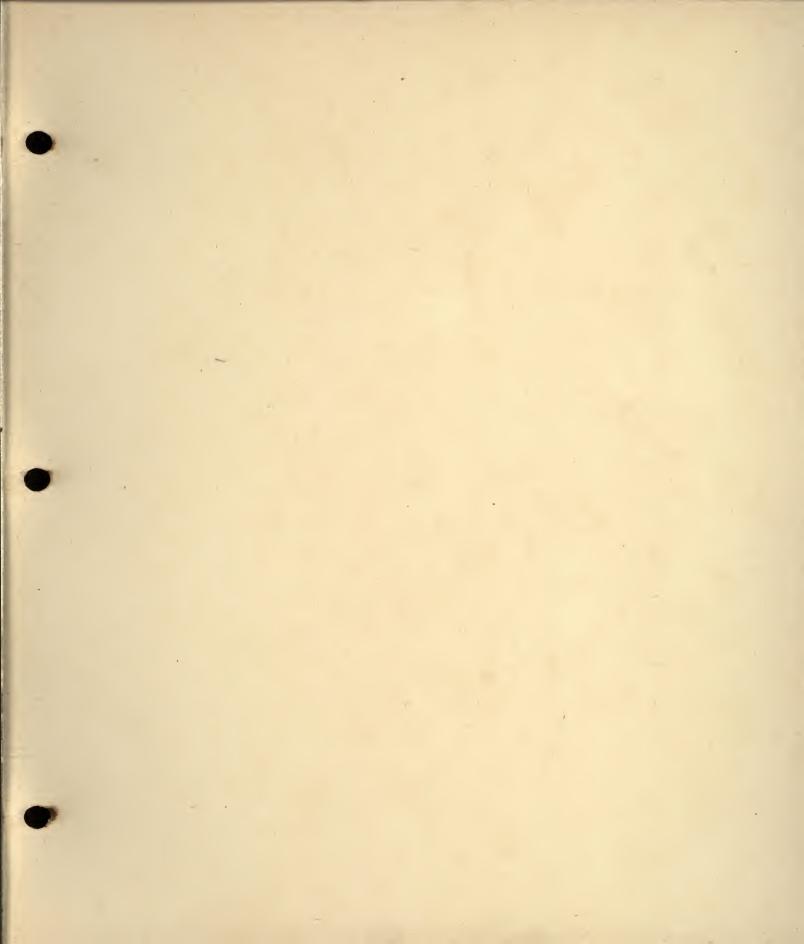


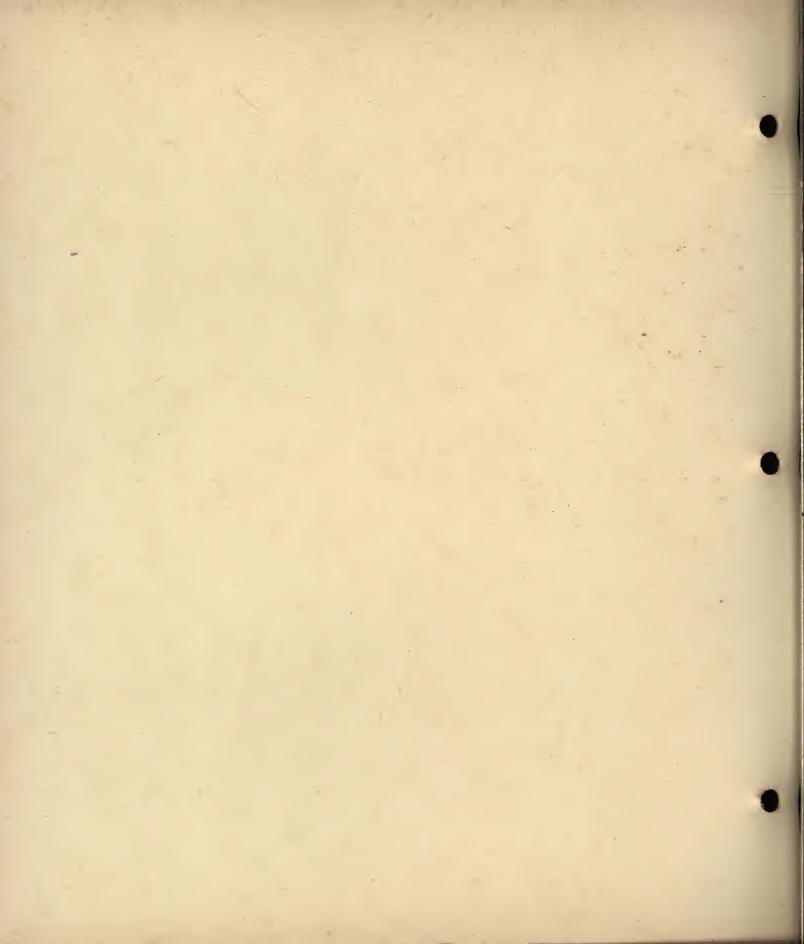
These brackets are finished in Nuvon Aluminum which is Satin Aluminum in appearance. Has inner reflecting surface of non-tarnishing Alzak Aluminum. Directs an even distribution of light over a reasonable area. Insert reflector prevents any unusual brightness on the wall. Has turn button switch.

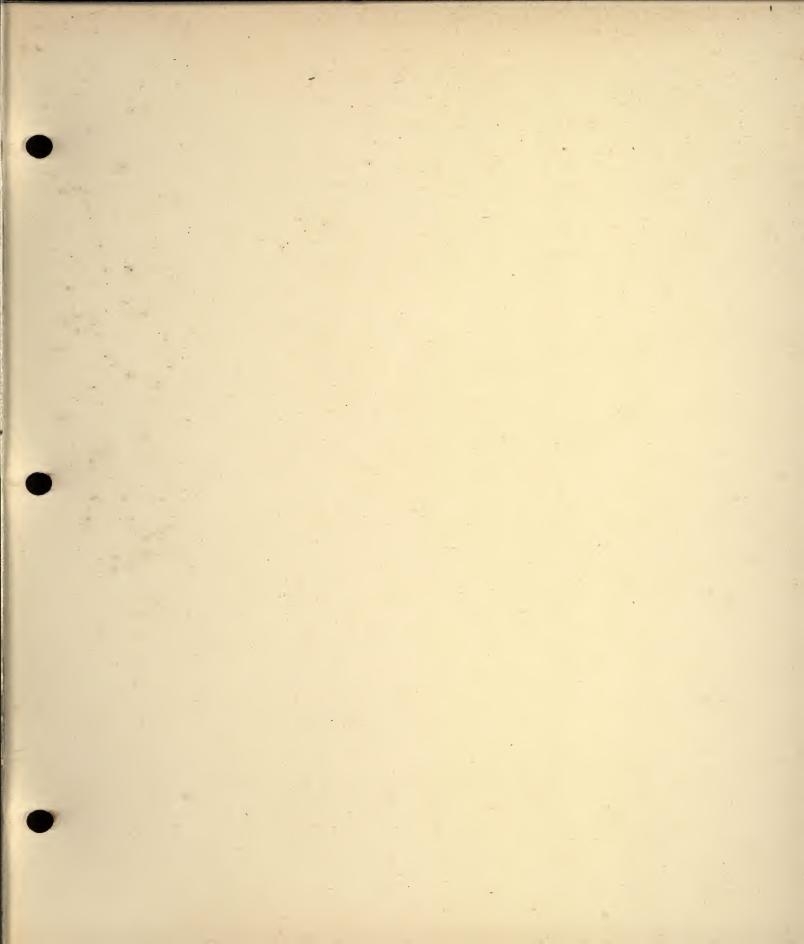


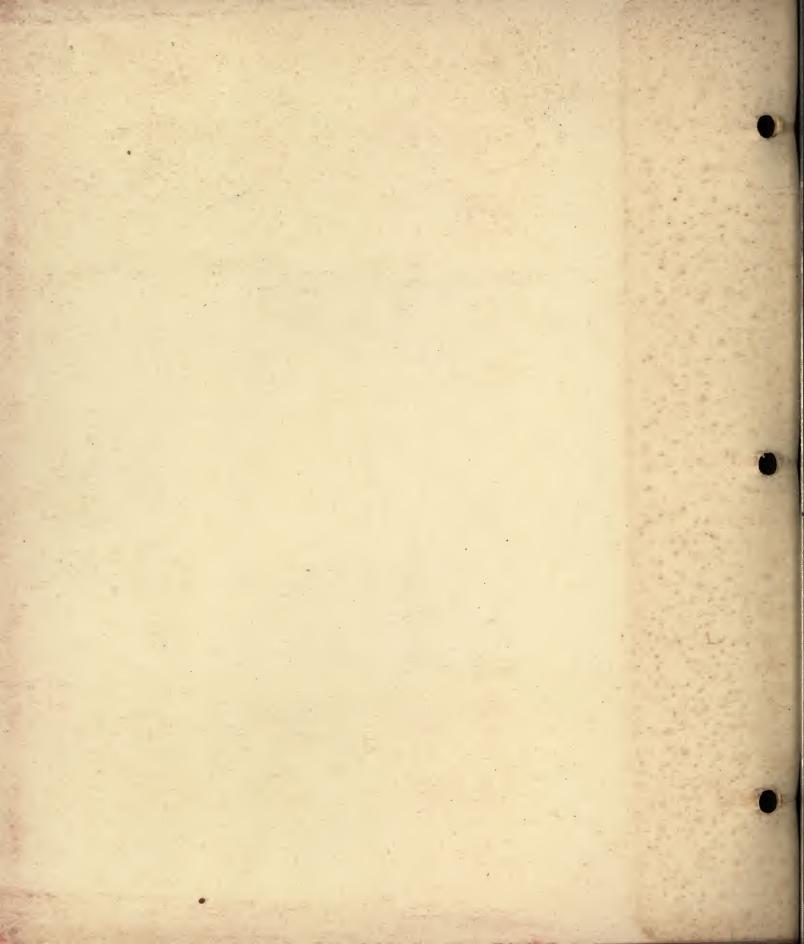
Catalog	Finish	List	Del.	Lamp	Dimensio	ns—Inches Length	Standard Package	
Number	rinish	Price Each	Code	Wattage	Diam.	Overall	Qty.	Wt. Lbs
MO 1200	Polished Chrome and Black	\$6.90	В	250-500	91/2	$91/_{2}$	6	30
MO 1200	Polished Chrome and Bronze	6.90	В	250-500	$9\frac{1}{2}$	$9\frac{1}{2}$	6	30
MO 1200	Polished Chrome and Ivory	6.90	В	250-500	$91/_{2}$	$91/_{2}$	6	30
MO 1202	Polished Chrome and Black	8.00	C	100-200-300 TRI	$91/_{2}$	$9\frac{1}{2}$	6	30
MO 1202	Polished Chrome and Bronze	8.00	C	100-200-300 TRI	$91/_{2}$	$91/_{2}$	6	30
MO 1202	Polished Chrome and Ivory	8.00	C	100-200-300 TRI	$91/_{2}$	$91/_{2}$	6	30
DM 36	Nuvon Aluminum	21.00	D	100-200-300 TRI	$14^{1/3}$	10	2	11
DM 37	Nuvon Aluminum	21.00	D	500 CX	$14\frac{1}{2}$	10	2	11
DM 38	Nuvon Aluminum	31.50	C	200-300-500 TRI	19	13	2	15
DM 39	Nuvon Aluminum	31.50	C	500	19	13	2	15











#### A STATEMENT OF MILLER POLICY

Miller products are sold only through distributors and specially appointed dealer agents located at strategic points throughout the country. We have standardized on this policy in the interest of better service to the customer at every point; to make Miller ENGINEERED LIGHTING easily and quickly available; to enable you to get the most efficient and satisfactory results from its use.

Wherever you are located, there is a Miller distributor or agent near you to serve you. This means that you get what you want when you want it. You have adequate stocks at your disposal. You have quick access to the services of the lighting specialists and regular supply men of our distributor or agents' organization.

Our own field men, working in cooperation with our distributors and agents are at your service at all times.

Our Representative Serving Your Territory is:

Ben Clarkson, 1801 N. Lamar Street, Dallas, Texas Local Tel. 7-9121 Long Distance Tel. 987

#### Digitized by:



## ASSOCIATION FOR PRESERVATION TECHNOLOGY www.apti.org

For the

#### **BUILDING TECHNOLOGY HERITAGE LIBRARY**

https://archive.org/details/buildingtechnologyheritagelibrary

From the collection of:



SOUTHEASTERN ARCHITECTURAL ARCHIVE SPECIAL COLLECTIONS HOWARD-TILTON MEMORIAL LIBRARY

http://seaa.tulane.edu